

DEQ

State of Michigan  
Department of Environmental Quality  
HAZARDOUS WASTE MANAGEMENT FACILITY OPERATING LICENSE

NAME OF LICENSEE: EQ Resource Recovery, Inc.

NAME OF OWNER: EQ Resource Recovery, Inc.

NAME OF OPERATOR: EQ Resource Recovery, Inc.

NAME OF TITLEHOLDER OF LAND: EQ Resource Recovery, Inc.

FACILITY NAME: EQ Resource Recovery, Inc.

FACILITY LOCATION: 36345 Van Born Road, Romulus, Michigan

EPA IDENTIFICATION NUMBER: MID 060 975 844

EFFECTIVE DATE: September 12, 2003

REAPPLICATION DATE: March 12, 2013

EXPIRATION DATE: September 12, 2013

AUTHORIZED ACTIVITIES

Pursuant to Part 111 of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), being §§24.11101 to 324.11152 of the Michigan Compiled Laws, and the hazardous waste management administrative rules (hereafter called the "rules") promulgated thereunder, being R 299.9101 et. seq. of the Michigan Administrative Code, by the Michigan Department of Environmental Quality (MDEQ), an operating license (hereafter called the "license") is issued to EQ Resource Recovery, Inc. (hereafter called the "licensee") to operate a hazardous waste facility located in Romulus, Michigan at latitude 83° 24' 30" and longitude 42° 16' 30". The licensee is authorized to conduct the following hazardous waste management activities:

☒ STORAGE

- ☒ Container
- ☒ Tank
- ☐ Waste Pile
- ☐ Surface Impoundment
- ☐ Drip Pad

☒ TREATMENT

- ☐ Container
- ☒ Tank
- ☐ Surface Impoundment
- ☐ Incinerator
- ☐ Other:

☐ DISPOSAL

- ☐ Landfill
- ☐ Land Application
- ☐ Surface Impoundment

☐ POST CLOSURE

- ☐ Tank
- ☐ Surface Impoundment
- ☐ Landfill
- ☐ Waste Pile

APPLICABLE REGULATIONS AND LICENSE APPROVAL

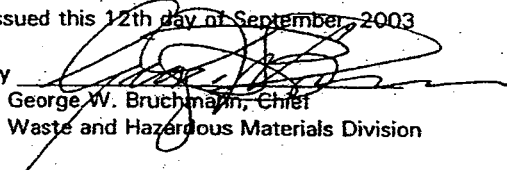
The conditions of this license were developed in accordance with the applicable provisions of the rules, effective September 11, 2000. The licensee shall comply with all terms and conditions of this license. This license consists of the pages of conditions attached hereto (including those in any Attachments 1 through 10 and the applicable regulations contained in R 299.9101 through R 299.11008, as specified in the license. For purposes of compliance with this license, applicable rules are those which are in effect on the date of issuance of this license in accordance with R 299.9521(3)(a).

This license is based on the information submitted in the license application submitted on August 8, 2001 and any subsequent amendments (hereafter referred to as "the application"). Pursuant to R 299.9519(1)(c), the license may be revoked if the licensee fails, in the application or during the license issuance process, to disclose fully all relevant facts or, at any time, misrepresents any relevant facts. As specified in R 299.9519(1), the facility shall be constructed, operated, and maintained in accordance with Part 111 of Act 451, the rules, and this license.

This license is effective on the date of issuance and shall remain in effect for 10 years from the date of issuance, unless revoked pursuant to R 299.9519 or continued in effect as provided by the Michigan Administrative Procedures Act, 1969 PA 306, as amended (Act 306).

Issued this 12th day of September, 2003

by

  
George W. Bruchmann, Chief  
Waste and Hazardous Materials Division

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- (a) **Duty to Reapply.** If the licensee wishes to continue an activity regulated by this license after the expiration date of this license, the licensee shall submit a complete application for a new license to the Chief of the Waste and Hazardous Materials Division at least 180 days before this license expires, September 12, 2013, unless an extension is granted pursuant to R 299.9510(6), (R 299.9521(1)(a) and (c) and (3)(a), and 40 CFR §270.30(b), which is ABR in R 299.11003).
- (b) **License Expiration.** To the extent the licensee makes a timely and sufficient application for renewal of this license, this license and all conditions herein will remain in effect beyond the license expiration date and shall not expire until a decision on the application is finally made by the MDEQ, and if the application is denied or the terms of the new license are limited, until the last day for applying for judicial review of the new license or a later date fixed by order of the reviewing court consistent with Section 91(2) of Act 306. (Section 91 of Act 306, R 299.9521(1)(c) and (3)(a)).
- (c) **Inspection and Entry.** The licensee shall allow the Chief of the Waste and Hazardous Materials Division, or any authorized representative, upon the presentation of credentials and other documents as may be required by law, to sample or monitor, at reasonable times, any substances or parameters at any location for the purpose of determining:
- (i) Whether the management of hazardous waste may present an imminent and substantial hazard to the health of persons or to the natural resources, or is endangering or causing danger to public health or the environment;
  - (ii) Whether cause exists for an enforcement action, license revocation, license modification, denial of a license renewal application, or to determine compliance with this license.
- If samples are taken for analysis, duplicate samples and a copy of the analytical results shall be furnished to the licensee upon request.
- (Sections 11146(1) and (2) and 11148(1) of Act 451, R 299.9521(1)(a), and 40 CFR §270.30(i), which is ABR in R 299.11003).
- (d) **Specific Monitoring Requirements.** The Chief of the Waste and Hazardous Materials Division reserves authority to modify the license pursuant to R 299.9519 to require specific monitoring for hazardous wastes or hazardous waste constituents, in addition to those requirements detailed in this license, if the Chief of the Waste and Hazardous Materials Division finds that additional monitoring is needed to demonstrate compliance with this license, Part 111 of Act 451 and the rules. (R 299.9611(5))
- (e) **Notice of Facility Modifications.** The licensee shall give notice to the Chief of the Waste and Hazardous Materials Division as soon as possible prior to any planned physical alterations or additions to the licensed facility. (R 299.9519(1))
- (f) **License Amendments for Facility Modifications.** The licensee shall request and obtain a license amendment prior to undertaking any modifications to the facility. Except as otherwise authorized by Part 111 of Act 451 and the rules, the licensee shall obtain a construction permit prior to expanding, enlarging, or altering the facility. (R 299.9501(1), R 299.9519, and R 299.9521(1)(b)(i))



(e) Inspection and entry,

(f) Monitoring and records.

{R 299.9521(1)(a) and 40 CFR §270.30(c)-(e) and (h)-(j), which are ABR in R 299.11003}

3. Any license noncompliance, except to the extent authorized by the MDEQ pursuant to the terms of an emergency operating license, constitutes a violation of Part 111 of Act 451 and is grounds for enforcement action, license revocation, license modification, or denial of a license renewal application. {R 299.9521(1)(a) and 40 CFR §270.30(a), which is ABR in R 299.11003}

#### F. SIGNATORY REQUIREMENT

The licensee shall ensure that all reports required by this license or other information requested by the Chief of the Waste and Hazardous Materials Division, or authorized representative, are signed and certified in accordance with R 299.9610(4), by a responsible corporate officer, as defined in 40 CFR §270.11, which is ABR in R 299.11003. {R 299.9521(1)(a) and 40 CFR §270.30(k), which is ABR in R 299.11003}

#### G. SUBMITTAL DUE DATES AND DEADLINES

When the due date or deadline for submission of applications, reports, records, and monitoring results required under this license falls on a weekend or legal state holiday, the due date or deadline shall be extended to the next regular business day, and reports, records, and monitoring results shall be considered submitted on a timely basis if submitted by the next regular business day. This extension does not apply to the submittal due date or deadline for financial mechanisms, and associated renewals, replacements, and extensions of financial mechanisms required under this license. The licensee may request extension of the due dates or deadlines for submittals required under this license. The licensee shall submit such requests at least five business days prior to the existing due date or deadline for review and approval by the Chief of the Waste and Hazardous Materials Division. Written extension requests shall include justification for each extension. {R 299.9521(3)(a)}

**F. GENERAL INSPECTION REQUIREMENTS**

The licensee shall inspect the hazardous waste management facility, remedy any deterioration or malfunction of equipment or structures, and document inspections and remedies in accordance with the attached inspection schedule, Attachment 2 of this license, and the provisions of 40 CFR 264.15 which is ABR in R 299.11003. {R 299.9605(1)}

**G. PERSONNEL TRAINING**

The licensee shall conduct personnel training as required by R 299.9605(1) and 40 CFR 264.16, which is ABR in R 299.11003. This training program shall, at a minimum, cover all items in the attached outline, Attachment 3 of this license. The licensee shall maintain training documents and records as required by R 299.9605 and 40 CFR 264.16(d), which is ABR in R 299.11003.

**H. PREPAREDNESS AND PREVENTION**

The licensee shall comply with the preparedness and prevention requirements of R 299.9606, including, but not limited to, required equipment, testing, and maintenance of equipment, access to communications and alarm systems, required aisle space, and arrangements with emergency response teams. {R 299.9606 and 40 CFR Part 264, Subpart C, which is ABR in R 299.11003}

**I. CONTINGENCY PLAN**

The licensee shall comply with the contingency plan requirements of R 299.9607. The contingency plan, Attachment 4 of this license, and the prescribed emergency procedures shall be immediately implemented by the licensee whenever there is a fire, explosion, or other release of hazardous waste or hazardous waste constituents which threatens or could threaten human health or the environment, or if the licensee has knowledge that a spill has reached surface water or groundwater. {R 299.9607 and 40 CFR Part 264, Subpart D, which is ABR in R 299.11003}

**J. DUTY TO MITIGATE**

Upon notification from the Chief of the Waste and Hazardous Materials Division or his or her designee that an activity at the facility may present an imminent and substantial endangerment to human health or the environment, the licensee shall immediately comply with an order issued by the Chief of the Waste and Hazardous Materials Division pursuant to Section 11148(1) of Act 451 to halt such activity and conduct other activities as required by the Chief of the Waste and Hazardous Materials Division to eliminate the said endangerment. The licensee shall not resume the halted activity without the prior written approval from the Chief of the Waste and Hazardous Materials Division. {Section 11148 of Act 451 and R 299.9521(3)(b)}

**K. MANIFEST SYSTEM**

The licensee shall comply with the manifest requirements of R 299.9304, R 299.9305, and R 299.9608.

**L. RECORDKEEPING AND REPORTING**

1. **Operating Record.** The licensee shall maintain a written operating record at the facility, until closure of the facility. {R 299.9609 and 40 CFR 264.73 and Part 264, Appendix I, which are ABR in R 299.11003}
2. **Biennial Report.** The licensee shall comply with the biennial report requirements of R 299.9610. A single copy of the biennial report shall be submitted to the Chief of the Waste and Hazardous Materials Division by March 1 of each even numbered year by mailing it to: Biennial Report

and its cause; the periods of noncompliance (including exact dates and times); whether the noncompliance has been corrected and, if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance and when those activities occurred or will occur. The licensee need not comply with the five-day written notice requirement if the Chief of the Waste and Hazardous Materials Division waives the requirement and the licensee submits a written report containing this information within 15 days after the time the licensee becomes aware of the circumstances.

{R 299.9521(1)(a) and R 299.9607 and 40 CFR 5270.30(l)(10), which is ABR in R 299.11003}

8. **Other Noncompliance.** The licensee shall report all other instances of noncompliance with this license, Part 111 of Act 451, the rules, and any other applicable environmental laws or rules that apply to the licensed facility, at the time monitoring reports required by this license are submitted or within 30 days, whichever is sooner. The reports shall contain the information listed in Condition II.L.7. of this license. {R 299.9521(1)(a) and 40 CFR 5270.30(l)(10), which is ABR in R 299.11003}

9. **Form Modification.** The licensee may make minor modifications to the forms contained in the attachments to this license. The modifications may include changing the format, updating existing references and information, adding necessary information, and changing certification and notification information in accordance with Part 111 of Act 451 and its rules, and RCRA and its regulations. The licensee shall submit the modifications to the Chief of the Waste and Hazardous Materials Division prior to implementing the use of the modified form(s). If the Chief of the Waste and Hazardous Materials Division does not reject or require revision of the modified form(s) within 14 days after receipt, the licensee shall implement use of the modified form(s) and the form(s) shall be incorporated into this license as a replacement for the existing form(s).

**M. CLOSURE**

The licensee shall comply with the closure requirements of R 299.9613, including, but not limited to, performance standards, amendment of closure plans, notification of closure, time allowed for closure, disposal or decontamination of equipment, and certification of closure. The licensee shall close the facility in accordance with the closure plan, Attachment 5 of this license, all other applicable requirements of this license, and all other applicable laws. The licensee shall submit a proposed amended copy of the closure plan to the Chief of the Waste and Hazardous Materials Division at the same time such a license modification is requested. {R 299.9613 and 40 CFR Part 264, Subpart G, except 40 CFR §§264.112(d)(1), 264.115, and 264.120, which is ABR in R 299.11003}

**N. COST ESTIMATE FOR FACILITY CLOSURE**

1. At the time of issuance of this license, the closure cost estimate is \$ 346,468.
2. The licensee shall comply with the closure cost estimate requirements of R 299.9702, including, but not limited to, adjustment of the closure cost estimate and maintenance of the latest cost estimate at the facility. {R 299.9702 and 40 CFR [§]264.142, which is ABR in R 299.11003}.

**O. FINANCIAL ASSURANCE FOR FACILITY CLOSURE**

1. The licensee shall provide and continuously maintain closure financial assurance in accordance with R 299.9703 in an amount at least equal to the cost estimate required by Condition II.N. of this license. The licensee shall submit all proposed changes in the mechanism(s), other than renewals, extensions, or increases in the amount of assurance, to the Chief of the Waste and Hazardous Materials Division and obtain his approval prior to implementation. The licensee shall provide the

**T. DOCUMENTS TO BE MAINTAINED AT THE FACILITY**

The licensee shall maintain at the facility the following documents and amendments required by this license, until closure/post-closure is completed, certified by an independent registered professional engineer, and the facility is released from financial assurance requirements for closure/post-closure by the Director:

1. Waste analysis plan, including QA/QC plan.
2. Inspection schedules.
3. Personnel training documents and records.
4. Contingency plan.
5. Closure plan.
6. Cost estimates for facility closure and copies of related financial assurance documents.
7. Operating record.
8. Site security plan.
9. Facility engineering plans and specifications.
10. Recordkeeping procedures.
11. Environmental monitoring plans, including sampling and analysis plans and QA/QC plans.
12. Environmental monitoring data and statistical records.
13. Preventative procedures (personnel protection plan).

{R 299.9521(3)(a)}

4. The licensee shall not stack containers of hazardous waste greater than two high (55 gallons or more), or 3 high (less than 55 gallons). {R 299.9521(3)(b)}
5. The licensee shall not store any container of hazardous waste for more than one year in the container storage area referenced in Condition III.A. of this license prior to treatment of its contents on-site or shipment off-site to another appropriately licensed hazardous waste treatment or disposal facility, except as approved by the Chief of the Waste and Hazardous Materials Division based on a petition demonstrating that such storage is solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal. {R 299.9521(3)(b), R 299.9627, and 40 CFR Part 268, which is ABR in R 299.11003}

**F. CONTAINMENT**

The licensee shall operate and maintain the containment system in accordance with the requirements of R 299.9614 and 40 CFR §264.175, which is ABR in R 299.11003, and the attached plans and specifications in Attachment 6 of this license.

**G. SPECIAL REQUIREMENTS FOR STORAGE OF IGNITABLE AND PROHIBITION ON STORAGE OF REACTIVE WASTES**

1. The licensee shall not locate containers holding ignitable within 15 meters (50 feet) of the facility's property line. {R 299.9614 and 40 CFR §264.176, which is ABR in R 299.11003}
2. The licensee shall take precautions to prevent the accidental ignition of ignitable wastes by following the procedures specified in Attachment 8 of this license. {R 299.9605 and 40 CFR §264.17(a), which is ABR in R 299.11003}
3. The licensee shall document compliance with Condition III.G.2. of this license and place this documentation in the operating record (Condition II.L.1. of this license). {R 299.9605 and 40 CFR §264.17(c), which is ABR in R 299.11003}
4. The licensee is prohibited from storing reactive wastes in the hazardous waste container storage areas referenced in Condition III.A. of this license. {R 299.9521(2)(d) and (3)(b)}

**H. PROHIBITION ON STORAGE OF INCOMPATIBLE WASTES OR MATERIALS**

1. The licensee is prohibited from placing incompatible wastes or incompatible wastes and materials in the same container. {R 299.9521(2)(d) and (3)(b)}
2. The licensee shall prevent the placement of hazardous waste in an unwashed container that previously held an incompatible waste or material. {R 299.9614 and 40 CFR §264.177(b), which is ABR in R 299.11003}
3. The licensee is prohibited from storing incompatible wastes or material in the hazardous waste container storage area referenced in Condition III.A. of this license. {R 299.9521(2)(d)}
4. The licensee shall document compliance with Conditions III.H.1. and III.H.2. of this license and place this documentation in the operating record (Condition II.L.1. of this license). {R 299.9605 and 40 CFR §264.17(c), which is ABR in R 299.11003}

**PART IV**

**TANK SYSTEM STORAGE AND TREATMENT CONDITIONS**

**A. COVERAGE OF LICENSE**

1. The hazardous waste tank system storage and treatment areas at the facility shown on Drawing "Figure 1" are covered by this license. Any expansion or enlargement beyond the facility boundary shown on Drawing Figure 1 or beyond the design capacities specified in Conditions IV.B. and IV.C. of this license requires a construction permit from the Director. {R 299.9521(1)(b)}
2. Drawing Figure 1 is incorporated into this license as Attachment 6.

**B. WASTE IDENTIFICATION AND QUANTITY**

1. The licensee may store no more than a total volume of 192,600 gallons of the hazardous wastes as part of solvent recovery and fuel blending in the tank system identified as Tanks 1, 2, 4, 6, 8, 9, 10, 11, A, B, C, D, E, F, and DES in Table C-2.1 and Drawing "Figure C-2.7" in Attachment 6, subject to the terms of this license. The licensee may store no more than a total volume of 96,800 gallons of the hazardous wastes for wastewater treatment in the tank system identified as Tanks ST-1, ST-2, ST-3, 300, and 301 in Table C-2.1 and Drawing "Phase 1" of Attachment 6, subject to the terms of this license. {R 299.9521(2)(d)}
2. Upon completion and certification of Phase II and Phase III of the wastewater treatment plant in accordance with Condition VII.1 and 2 of this license, the licensee may store a total volume of 583,757 gallons of hazardous waste as part of wastewater treatment.

**C. WASTE TREATMENT CAPACITY AND METHODS**

1. The licensee may treat by fuel blending no more than a total volume of 105,600 gallons per day of the hazardous wastes listed in Attachment 7 in the tank system identified as Tanks A, B, C, D, E, F, and 9 in Table C-2.1 and Drawing "Figure C-2.7" in Attachment 6 subject to the terms of this license. The licensee may treat no more than a total volume of 250,000 gallons per day of the hazardous wastewaters listed in Attachment 7 in the tank system identified as Tanks HS-1, HS-2, HS-3, 300, and 301 in Table C-2.1 and Drawing "Phase I" in Attachment 6, subject to the terms of this license. {R 299.9521(2)(d) and (3)(a) and (b)}
2. Upon completion and certification of Phase II and Phase III of the wastewater treatment plant in accordance with Conditions VII.1 and 2 of this license, the licensee may also conduct treatment in Tanks 304, 100, 101, 102, 103, 104, Acid Tanks (5), Neutralization Tanks (2), DAF, and Pretreat Clarify in Table C-2.1 of Attachment 6, within the 250,000 gallons per day total wastewater treatment capacity.

**D. DESIGN, CONTAINMENT, AND ASSESSMENT OF TANK SYSTEMS**

The licensee shall construct, operate, and maintain all tank systems in accordance with the applicable requirements of R 299.9615 and 40 CFR 55264.191, 264.192, 264.193, and 264.194, which are ABR in R 299.11003, and in accordance with the attached plans and specifications in Attachment 6 of this license.

**E. MANAGEMENT OF TANK SYSTEMS**

1. The licensee shall manage the tank systems in accordance with the requirements of R 299.9615

**H. PROHIBITION ON STORAGE OR TREATMENT OF INCOMPATIBLE WASTES OR MATERIALS**

The licensee shall not place incompatible wastes or incompatible wastes and materials in the same tank system or place hazardous waste in a tank system that has not been decontaminated and that previously held an incompatible waste or material. {R 299.9615 and 40 CFR §264.199, which is ABR in R 299.11003}

**I. DISPOSITION OF ACCUMULATED LIQUIDS**

The licensee shall remove spilled or leaked waste and accumulated precipitation from the tank system within 24 hours of detection and manage it in accordance with the requirements of Part 111 of Act 451 and the rules. {R 299.9521(3)(b), R 299.9615, and 40 CFR §264.193(c)(4), which is ABR in R 299.11003}

**J. COMPLIANCE WITH AIR EMISSION AND WASTE MANAGEMENT REQUIREMENTS FOR STORAGE AND TREATMENT IN TANK SYSTEMS**

The licensee shall operate the facility in a manner that will prevent air emissions in violation of Part 55 of Act 451. {R 299.9602(1)(b)}

3. The licensee shall submit an annual groundwater report to the Chief of the Waste and Hazardous Materials Division no later than March 1 for the previous calendar year's activities. At a minimum, the report shall include the following information:
- (a) A narrative summary of the previous calendar year's sampling events, including sampling event dates, the identification of any significant problems with respect to Sampling and Analysis Plan (SAP) defined procedures, and copies of field log sheets.
  - (b) A determination of the groundwater flow rate, the direction in the monitored zone, and a summary of the hydraulic gradient across the clay barrier wall, including the preparation of a groundwater level contour map from this data.
  - (c) A summary of groundwater quality data results, including data tables, data graphs, and a narrative summary of results and trends.
  - (d) A presentation of the statistical analysis of the data and the identification of any statistically significant increases (and/or pH decreases) pursuant to Conditions VI.A.6. and VI.A.11. of this license.
  - (e) An analysis and discussion of laboratory and field related quality assurance/quality control information. This shall include results of equipment, field, and trip blanks, and discussion and evaluation of the adequacy of the data with respect to SAP specifications and requirements.
- This annual report is in addition to the reporting requirements of Condition II.L.4. of this license. (R 299.9621(3)(b), R 299.9612(1) and 40 CFR 5264.97(j), which is ABR in R 299.11003)
4. Establishing Background. The licensee shall establish background groundwater quality values at monitoring wells for the parameters specified in Table 2 of Attachment 9 of this license.
- (a) Background values for primary and secondary parameters shall be established by sampling quarterly for two years. Existing data must be used where available at a given well to establish the background data set in order to shorten the time needed to establish background values. Within 30 days after reporting the eighth quarterly set of data, the licensee shall submit the mean background values, variance, and standard deviations for each monitored parameter at each well to the Chief of the Waste and Hazardous Materials Division.
  - (b) Background values may be re-established only upon written approval of the Chief of the Waste and Hazardous Materials Division.
- (R 299.9612(1)(d) and (e) and 40 CFR 5264.97(a) and (g), which are ABR in R 299.11003)
5. Corrective Action Monitoring Program. The licensee shall monitor all wells, piezometers and groundwater collection system manholes in Table 1 for static water level elevation, and analyze samples for the primary, secondary and tertiary parameters in Table 2 as specified below. Data and evaluations must be submitted to the Chief of the Waste and Hazardous Materials Division in accordance with the time frame specified in Condition II.L.4. of this license. Tables 1 and 2 are included in Attachment 9 of this license. (R 299.9612 and R 299.9629)
- (a) The wells, piezometers and manholes listed in Table 1 shall be measured for static water elevation monthly.



background levels for each primary parameter listed in Table 2 of Attachment 9 of this license. A statistically significant increase (or change in pH) shall be determined using the statistical evaluation specified in Appendix C of Attachment 9 of this license {R 299.9612(1)(e) and 40 CFR §264.97(h) and (i), which are ABR in R 299.11003}

7. If a statistically significant increase (or change in pH) is detected, the licensee shall notify the Waste and Hazardous Materials Division, Hazardous Waste and Radiological Protection Section, Technical Support Unit, by telephone within one working day and arrange a resampling as soon as possible to confirm if a statistically significant increase (or change in pH) exists. Resampling must include not less than four replicate samples at the affected well(s) for the primary parameter(s) in question. A statistically significant exceedance shall be confirmed using the statistical evaluation procedures defined in Appendix C of Attachment 9 of this license {R 299.9612 and 40 CFR §264.97(g), which is ABR in R 299.11003}
8. If the licensee determines pursuant to Conditions VI.A.6. and VI.A.7. of this license that a statistically significant increase (or change in pH) has occurred for primary parameters, the licensee shall: {R 299.9612 and 40 CFR §264.98(f) and (g), which are ABR in R 299.11003}
  - (a) Notify the Chief of the Waste and Hazardous Materials Division within one working day by calling the Waste and Hazardous Materials Division project geologist or permit engineer for the site, or the appropriate Waste and Hazardous Materials Division District Supervisor, or in the event of their unavailability, the Department of Environmental Quality PEAS at 1-800-292-4706.
  - (b) Provide follow-up notification to the Chief of the Waste and Hazardous Materials Division in writing within seven calendar days after the telephone call. The notification shall indicate what parameters or constituents have shown statistically significant changes and the well(s) in which the changes have occurred.
  - (c) As soon as possible, sample the groundwater in all groundwater quality monitoring wells for primary and secondary parameters and determine the concentration of all constituents identified in Appendix IX of 40 CFR Part 264 that are present in groundwater and for which approved analysis methods exist. The licensee shall also establish background values for Appendix IX constituents detected pursuant to R 299.9612 and 40 CFR §264.98(g)(3), which is ABR in R 299.11003.
  - (d) Immediately take steps to determine the cause of the contamination and eliminate the source of discharge.
  - (e) Within 90 days after the determination, submit to the Chief of the Waste and Hazardous Materials Division an application for a license modification for the groundwater monitoring and corrective action program meeting the requirements of R 299.9612 and R 299.9629. The application shall include the following information:
    - (i) An identification of the concentration of all Appendix IX constituents found in the groundwater.
    - (ii) Any proposed changes to the groundwater monitoring system at the facility necessary to meet the requirements of R 299.9612.
    - (iii) Any proposed changes to the monitoring frequency, sampling and analysis procedures or methods, or statistical procedures used at the facility necessary to meet the requirements of R 299.9612.

11. Secondary Parameters. Within 60 days after each sampling of each monitoring well, the licensee shall determine if a statistically significant increase (or change in pH) has occurred compared to background levels for each secondary parameter listed in Table 2 of Attachment 9 of this license. A significant increase (or change in pH) shall be determined using the statistical evaluation specified in Section 11 and Appendix C of Attachment 9 of this license {R 299.9612(1)(c)}
12. If the licensee determines pursuant to Condition VI.A.11. of this license that a statistically significant increase (or change in pH) has occurred for any secondary parameter, the licensee shall:
  - (a) Notify the Director, within one working day, by calling the Chief of the Waste and Hazardous Materials Division or the appropriate Waste and Hazardous Materials Division District Supervisor.
  - (b) Resample for both primary and secondary parameters in the affected well(s), taking not less than four samples at each well.
  - (c) Redetermine whether or not a statistically significant increase (or change in pH) has occurred in either primary or secondary parameters, and, within one working day, notify the Chief of the Waste and Hazardous Materials Division. A statistically significant exceedance shall be confirmed using the statistical evaluation procedures defined in Appendix C of Attachment 9 of this license.
  - (d) If confirmed, the licensee shall immediately take steps to determine the cause of contamination and eliminate the source of the discharge. A report that explains the chronology of events, investigative methods, all lab analyses, calculations, field activities, and findings/conclusions, related to this determination shall be submitted within 60 days after a statistically significant determination under Condition VI.A.11 of this license.
  - (e) The licensee may demonstrate that a source other than the licensed facility, or an error in sampling, analysis, or evaluation solely caused the increase. A report that contains the information set forth in Condition VI.A.12.(d) of this license shall be submitted within 60 days after a statistically significant determination under Condition VI.A.11 of this license.

{R 299.9612(1)(c)}.

**B. AMBIENT AIR MONITORING PROGRAM**

1. The licensee shall conduct ambient air monitoring in accordance with the program specified in Appendix B-5.B of Attachment 10 of this license. {R 299.9611(2)(c)}
2. The licensee shall report ambient air monitoring results as required by Condition II.L.4. of this license.

**C. SURFACE WATER MONITORING PROGRAM**

1. The licensee shall conduct a quarterly surface water monitoring program as described in Section B-5 and Appendix C of Attachment 9 of this license.
2. Within 60 days after each sampling, the licensee shall determine if a confirmed statistically significant increase has occurred compared to background levels for each parameter listed in Table 3 of Attachment 9 of this license. A significant increase shall be confirmed using the statistical evaluation method specified in Appendix C of Attachment 9 of this license.

## PART VI

### CORRECTIVE ACTION CONDITIONS

#### A. CORRECTIVE ACTION AT THE FACILITY

1. The licensee shall implement corrective action for all releases of a contaminant from any waste management units at the facility, regardless of when the contaminant may have been placed in or released from the waste management unit. For the purposes of this license, the term "corrective action" means an action determined by the Chief of the Waste and Hazardous Materials Division to be necessary to protect the public health, safety, welfare, or the environment, and includes, but is not limited to, investigation, evaluation, cleanup, removal, remediation, monitoring, containment, isolation, treatment, storage, management, temporary relocation of people, and provision of alternative water supplies, or any corrective action allowed under Title II of the federal Solid Waste Disposal Act, or regulations promulgated pursuant to that act. For the purposes of this license, remedial process associated with the environmental protection standards of Part 201, Environmental Remediation, of Act 451 (Part 201) or a substantially equivalent process approved by the Chief of the Waste and Hazardous Materials Division shall satisfy the corrective action obligations under this license. {Sections 11102, 11115a, 20120a and 20120b of Act 451 and R 299.9629}
2. To the extent that a release of a hazardous substance, that is not also a contaminant, is discovered while performing corrective action under this license, the licensee shall take concurrent actions as necessary to address the Part 201 remedial obligations for that release. {Part 201 of Act 451}

#### B. CORRECTIVE ACTION BEYOND THE FACILITY BOUNDARY

The licensee shall implement corrective action beyond the facility boundary if the release of a contaminant has or may have migrated or has or may have been emitted, beyond the facility boundary, unless the licensee demonstrates to the satisfaction of the Chief of the Waste and Hazardous Materials Division that, despite the licensee's best efforts, the licensee was unable to obtain the necessary permission to undertake this correction action. The licensee shall not be relieved of all responsibility to clean up a release that has migrated or has been emitted beyond the facility boundary where off-site access is denied. On-site measures to address such releases shall be addressed under this part of the license, as determined to be necessary on a case-by-case basis. {Section 11115a of Act 451 and R 299.9629}

#### C. IDENTIFICATION OF EXISTING WASTE MANAGEMENT UNITS

The following waste management units (WMUs) have been identified at the facility:

WMU Number 1	Off-Site Groundwater
WMU Number 2	On-Site Groundwater and Soil

1. The following WMU, identified in the On-Site RCRA Facility Investigation (RFI) Report, May 30, 1996, requires further corrective action at this time which includes, at a minimum, further investigation of long term options for remediating residual on-site contaminated soil and groundwater.  
  
WMU Number 2      On-Site Groundwater and Soil
2. The following WMU, identified in the Groundwater Off-site RCRA Facility Investigation (RFI) Report, April 27, 1995 requires no further corrective action at this time. No further corrective action is required at this time because the results of the RFI and the existing interim measures to remove contaminated soil and replace with a clay dike along the east border of the property and

## Corrective Action Conditions

1. The licensee shall submit a written RI Work Plan to the Chief of the Waste and Hazardous Materials Division for review and approval within 90 days after notification that corrective action is required pursuant to Condition VI.D.2.
2. The Chief of the Waste and Hazardous Materials Division will approve or modify and approve the RI Work Plan, or provide a written Notice of Deficiency on the RI Work Plan. The licensee shall modify the RI Work Plan in accordance with the Notice of Deficiency and submit a new RI Work Plan or revisions to the RI Work Plan to the Chief of the Waste and Hazardous Materials Division for approval within 45 days after receipt of the Notice of Deficiency. Upon approval by the Chief of the Waste and Hazardous Materials Division, the RI Work Plan becomes an enforceable condition of this license.
3. The licensee shall implement the approved RI Work Plan within 90 days after receipt of the Chief of the Waste and Hazardous Materials Division's written approval of the RI Work Plan.
4. The licensee shall submit a written RI Final Report to the Chief of the Waste and Hazardous Materials Division for review and approval within 60 days after the completion of the RI. The RI Final Report shall document compliance with the approved RI Work Plan and support further corrective action at the facility.
5. The Chief of the Waste and Hazardous Materials Division will approve the RI Final Report or provide a written Notice of Deficiency on the RI Final Report. The licensee shall modify the RI Final Report in accordance with the Notice of Deficiency and submit a new RI Final Report or revisions to the RI Final Report to the Chief of the Waste and Hazardous Materials Division for approval within 30 days after receipt of the Notice of Deficiency.
6. The licensee shall submit bi-monthly written RI progress reports to the Chief of the Waste and Hazardous Materials Division.
7. The licensee shall comply with the time frames specified in Condition VI.E.1.-VI.E.6. of this license unless otherwise approved in writing by the Chief of the Waste and Hazardous Materials Division.

{Sections 11102 and 11115a of Act 451 and R 299.9629, and Part 201 of Act 451}

**F. INTERIM RESPONSE ACTIVITIES**

The licensee shall conduct interim response activities (IRA) at the facility, if determined necessary by the licensee or the Chief of the Waste and Hazardous Materials Division, to clean up or remove a released contaminant or to take other actions, prior to the implementation of a remedial action, as may be necessary to prevent, minimize, or mitigate injury to the public health, safety, or welfare, or to the environment. The licensee shall conduct interim response activities that conform with or that are substantially equivalent to the IRA provisions of Part 201 of Act 451 and Conditions VI.F.1-VI.F.5. of this license.

1. The licensee shall submit a written IRA Work Plan to the Chief of the Waste and Hazardous Materials Division for review and approval within 60 days after the determination that an IRA is necessary.
2. The Chief of the Waste and Hazardous Materials Division will approve or modify and approve the IRA Work Plan, or provide a written Notice of Deficiency on the IRA Work Plan. The licensee shall modify the IRA Work Plan in accordance with the Notice of Deficiency and submit a new IRA Work Plan or revisions to the IRA Work Plan to the Chief of Waste and Hazardous Materials Division for approval within 30 days after receipt of the Notice of Deficiency. Upon approval by the Chief of the Waste and Hazardous Materials Division, the IRA Work Plan becomes an enforceable condition of this license.

5. A determination of no further action shall not preclude the Chief of the Waste and Hazardous Materials Division from requiring further corrective action at a later date, if new information or subsequent analysis indicates that a release or potential release of a contaminant(s) from a WMU at the facility may pose a threat to public health, safety, welfare, or the environment. The Chief of the Waste and Hazardous Materials Division will initiate the necessary license modifications if further corrective action is required at a later date.

#### H. FEASIBILITY STUDY

If the Chief of the Waste and Hazardous Materials Division determines, based on the results of the RI and other relevant information, that response activities are necessary, the Chief of the Waste and Hazardous Materials Division will notify the licensee in writing that a Feasibility Study (FS) is required. If required by the Chief of the Waste and Hazardous Materials Division, the licensee shall conduct a FS to develop and evaluate response activity alternative(s) necessary to address the release(s) of a contaminant(s) or hazardous substances and the WMU(s) that are identified in the approved RI Final Report as requiring response activities. The licensee shall conduct an FS that conforms with or that is substantially equivalent to the FS provisions of Part 201 of Act 451 and Conditions VI.H.1.-VI.H.7. of this license.

1. The licensee shall submit a written FS Work Plan for WMU 2 to the Chief of the Waste and Hazardous Materials Division for review and approval within 90 days after issuance of this license. The licensee shall submit a written FS Work Plan 90 days from receipt of written notification that a FS is required for a new release or new WMU.
2. The Chief of the Waste and Hazardous Materials Division will approve or modify and approve the FS Work Plan, or provide a written Notice of Deficiency on the FS Work Plan. The licensee shall modify the FS Work Plan in accordance with the Notice of Deficiency and submit a new FS Work Plan or revisions to FS Work Plan to the Chief of Waste and Hazardous Materials Division for approval within 45 days after receipt of the Notice of Deficiency. Upon approval by the Chief of the Waste and Hazardous Materials Division, the FS Work Plan becomes an enforceable condition of this license.
3. The licensee shall implement the approved FS Work Plan within 90 days after receipt of the Chief of the Waste and Hazardous Materials Division's written approval of the FS Work Plan.
4. The licensee shall submit a written FS Final Report to the Chief of the Waste and Hazardous Materials Division for review and approval within 60 days after the completion of the FS. The FS Final Report shall document compliance with the approved CMS Work Plan and support further corrective action at the facility.
5. The Chief of the Waste and Hazardous Materials Division will approve the FS Final Report or provide a written Notice of Deficiency on the FS Final Report. The licensee shall modify the FS Final Report in accordance with the Notice of Deficiency and submit a new FS Final Report or revisions to the FS Final Report to the Chief of the Waste and Hazardous Materials Division for approval within 30 days after receipt of the Notice of Deficiency.
6. The licensee shall submit bi-monthly written FS progress reports to the Chief of the Waste and Hazardous Materials Division.
7. The licensee shall comply with the time frames specified in Condition VI.H.1.-VI.H.6. of this license unless otherwise approved in writing by the Chief of the Waste and Hazardous Materials Division.

{Sections 11102 and 11115a of Act 451, R 299.9629, and Part 201 of Act 451}

the RAP Completion Report becomes an enforceable condition of this license.

8. The licensee shall submit monthly written progress reports during the construction phase of the RAP and written monthly progress reports during first 6 months of the operation and maintenance phase of the RAP and quarterly thereafter, to the Chief of the Waste and Hazardous Materials Division.
9. The licensee shall comply with the time frames specified in Condition VI.I.1.-VI.I.8. of this license unless otherwise approved in writing by the Chief of the Waste and Hazardous Materials Division.

{Sections 11102, 11115a, 20120a, and 20120b of Act 451 and R 299.9629}

**J. COST ESTIMATE FOR CORRECTIVE ACTION**

1. The licensee shall prepare a detailed written cost estimate for implementing the final response activity at the facility. {R 299.9712}
2. The licensee shall submit the detailed written cost estimate for implementing the final response activity to the Chief of the Waste and Hazardous Materials Division for review and approval in conjunction with the RAP required in Condition VI.I.1. of this license. {R 299.9712}
3. The Chief of the Waste and Hazardous Materials Division will approve the cost estimate for implementing final response activity or provide a written Notice of Deficiency on that cost estimate. The licensee shall modify the cost estimate for implementing final response activity in accordance with the Notice of Deficiency and submit a new cost estimate for implementing final response activity to the Chief of the Waste and Hazardous Materials Division for approval within 45 days after receipt of the Notice of Deficiency. Upon approval by the Chief of the Waste and Hazardous Materials Division, the cost estimate becomes an enforceable condition of this license. {R 299.9712}
4. Until the Director notifies the licensee in writing that the licensee is no longer required by R 299.9713 to maintain financial assurance for implementing final response activity at the facility, the licensee shall adjust the final response activity implementation cost estimate for inflation within 60 days prior to the anniversary of the date of the establishment of the financial mechanism(s) used to demonstrate financial assurance for implementing final response activity. If the financial mechanism used is the financial test or corporate guarantee, the licensee shall adjust the cost estimate for inflation within 30 days after the close of the firm's fiscal year and before submission of updated financial information to the Chief of the Waste and Hazardous Materials Division. Whenever the current cost estimate increases to an amount greater than the current value of the associated financial mechanism for reasons other than inflation, the licensee shall, within 60 days, increase the value of the mechanism to an amount at least equal to the adjusted cost estimate. Evidence of such increases shall be submitted to the Chief of the Waste and Hazardous Materials Division during the 60-day period. {R 299.9712}
5. The licensee shall recalculate the cost estimate for implementing final response activity within 30 days after the Chief of the Waste and Hazardous Materials Division has approved a modification of the RAP. Until the Director notifies the licensee in writing that the licensee is no longer required to maintain financial assurance for implementing final response activity, the licensee shall revise the CMI cost estimate whenever there is a change in the RAP, if the change in the RAP increases the cost of implementing final response activity. {R 299.9712}
6. The licensee shall keep the latest cost estimate for implementing final response activity at the facility. {R 299.9609}

**N. SUMMARY OF CORRECTIVE ACTION SUBMITTALS**

The licensee shall submit required corrective action documents in accordance with the schedule below.

CORRECTIVE ACTION DOCUMENT	SUBMITTAL DEADLINE
Written notification of a new release of a contaminant from an existing WMU, a new WMU, or a release of a contaminant from a new WMU	Within 30 days after discovery
RI Work Plan for a newly identified release of a contaminant from an existing WMU, a new WMU, or a release of a contaminant from a new WMU	Within 60 days after receipt of written notification that corrective action is required
Revised RI Work Plan for existing and new WMU contaminant releases	Within 45 days after receipt of RI Work Plan Notice of Deficiency
RI progress reports	Bi-monthly after initiation of the RI
RI Final Report for existing and new WMU contaminant releases	Within 60 days after completion of RI
Revised RI Final Report for existing and new WMU contaminant releases	Within 30 days after receipt of RI Final Report Notice of Deficiency
IRA Work Plan for existing and new WMU contaminant releases	Within 60 days after determination that an IRA is necessary
Revised IRA Work Plan for existing and new WMU contaminant releases	Within 30 days after receipt of IRA Work Plan Notice of Deficiency
IRA Final Report for existing and new WMU contaminant releases	Within 60 days after completion of the IRA
IRA progress reports	Monthly after initiation IRA
Revised IRA Final Report for existing and new WMU contaminant releases	Within 30 days after IRA Final Report Notice of Deficiency
FS Work Plan for existing and new WMU contaminant releases	Within 90 days after receipt of notification that FS is required
Revised FS Work Plan for existing and new WMU contaminant releases	Within 45 days after receipt of FS Work Plan Notice of Deficiency
FS progress reports	Bi-monthly after initiation of the FS
FS Final Report for existing and new WMU contaminant releases	Within 60 days after completion of the FS
Revised FS Final Report for existing and new WMU contaminant releases	Within 30 days after receipt of FS Final Report Notice of Deficiency
RAP for existing and new WMU contaminant releases	Within 120 days after approval of the FS Final Report
Revised RAP for existing and new WMU contaminant releases	Within 45 days after receipt of RAP Notice of Deficiency

**PART VII**

**SCHEDULE OF COMPLIANCE**

1. Within 90 days from the issuance of this license, the licensee shall submit basis of design, engineering plans, and specifications for Phase II of the wastewater treatment facility to the Chief of the Waste and Hazardous Materials Division for review and approval. Upon approval those plans and specifications will become part of Attachment of 6 this license.
2. Within 180 days from the issuance of this license, the licensee shall submit basis of design, engineering plans, and specifications for Phase III of the wastewater treatment facility to the Chief of the Waste and Hazardous Materials Division for review and approval. Upon approval those plans and specifications will become part of Attachment 6 of this license.



# **Environmental Monitoring and Testing**

## ***Ambient Air Monitoring***

Ambient air monitoring is conducted in accordance with the Michigan Part 111 Hazardous Waste Facility Operating License for EQRR. The facility has 4 monitoring stations located East, West, and North of the property along the fence line. High volume particulate samplers and organic samplers are positioned at each location. The high volume and organic samplers are operated every 6<sup>th</sup> day for a 24 hour period. Samples collected from the high volume samplers are analyzed for Cadmium, Lead, and Total Suspended Particulates.

Results are reported to the Michigan Department of Environmental Quality - Air Quality Division per the facility operating license for EQRR.

## ***Groundwater Monitoring***

Groundwater monitoring is conducted in accordance with the facility's Groundwater Monitoring Program as required in the operating licenses. Currently, there are 22 monitoring wells and 5 piezometers on site. Collection of samples is conducted in accordance with the sampling and analysis plan that is part of the facility's Operating License.

## ***Surface Water Monitoring***

Currently, surface water monitoring is conducted as part of the facility's Groundwater Monitoring Program. Surface water monitoring for the facility is conducted from the ditch located along the East Side of the property. The ditch, Trouton Drain, discharges North to South. Biannually, samples are taken from 3 locations within the drain. The results are analyzed statistically and reported to the MDEQ Waste Management Division.

## ***Process Discharge Monitoring***

Process discharge monitoring is conducted in accordance with Detroit Water and Sewerage Permit #936-003. Samples are collected from 2 discharge points and analyzed in accordance with 40 CFR Part 136 methods.

For testing parameters for the above mentioned, see "Environmental Monitoring Parameters".

# Operations

In 1986, EQ acquired Michigan Recovery Systems, Inc. to compliment our Michigan Disposal Waste Treatment Plant and Wayne Disposal hazardous waste landfill facilities. In 2001, Michigan Recovery Systems, Inc. changed its name to EQ Resource Recovery, Inc., in an effort to streamline EQ's facilities and to more fully integrate EQRR and their by-product recycling capabilities into the national EQ market.

EQRR specializes in chemical recycling and the recycling and reclamation of industrial organic solvents for direct reuse. Various hydrocarbon waste streams are managed at EQRR by blending them into a fuel burned by cement kilns. They also have the capability to treat nonhazardous industrial waste waters (see "Treatment Services").

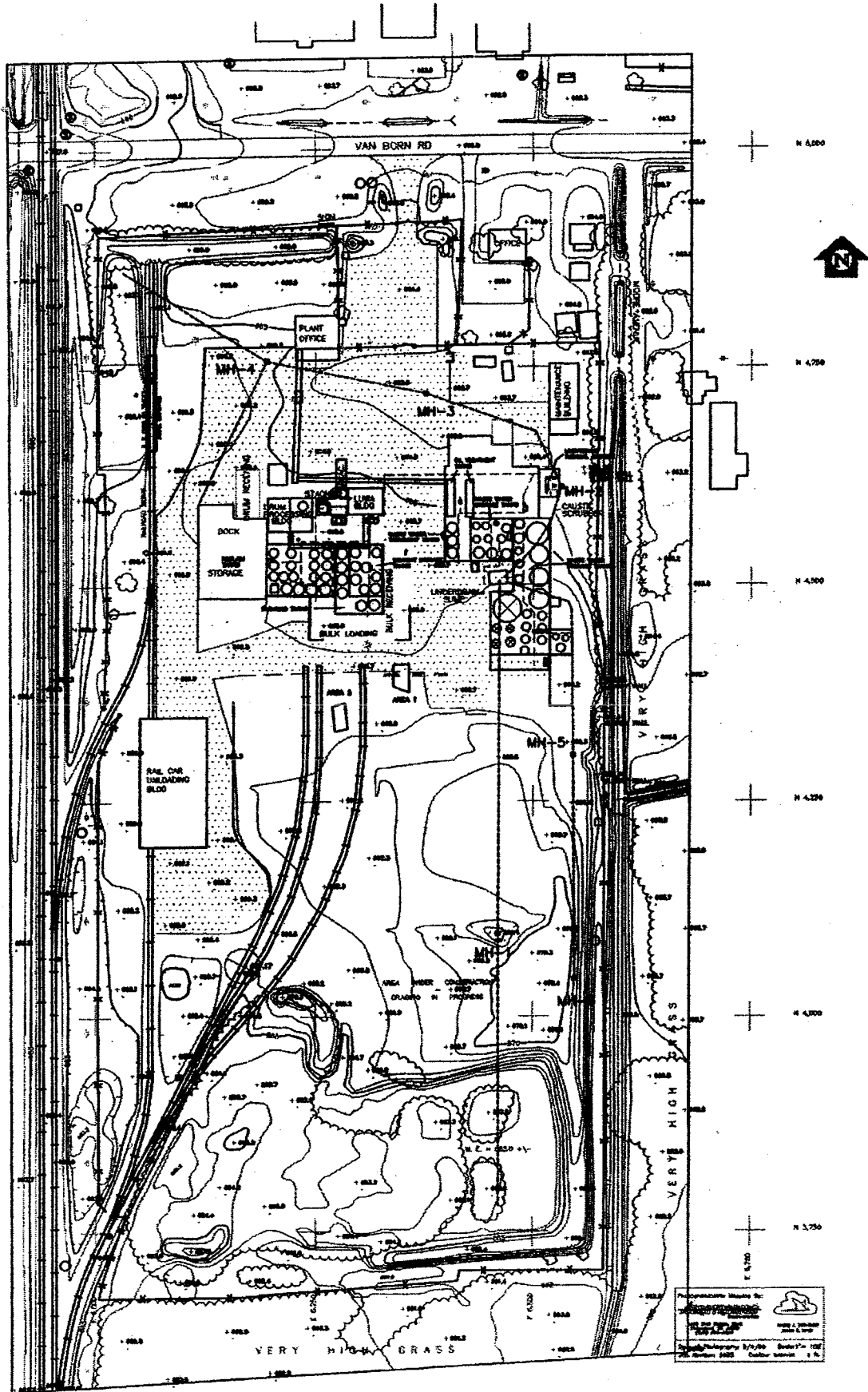
## **Types of waste processed at EQRR:**

### *Nonhazardous Industrial Waste*

- recoverable petroleum products
- used/off-spec oil
- nonhazardous waste waters
- press streams

### *Chemical Recycling Process*

- solvents
- solvent blends
- paint
- adhesives
- inks
- gasoline
- petroleum by-products



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) PERMIT

Facility Name and Location: EQ Resource Recovery, Inc.  
36345 Van Born Road  
Romulus, MI 48174

Owner(s): EQ Resource Recovery, Inc.  
36255 Michigan Avenue  
Wayne, MI 48184

Operator(s): EQ Resource Recovery, Inc.  
36255 Michigan Avenue  
Wayne, MI 48184

U.S. EPA Identification Number: MID 060 975 844

Effective Date: April 11, 2003

Expiration Date: April 11, 2013

Authorized Activities:

The United States Environmental Protection Agency (U.S. EPA) hereby issues a Resource Conservation and Recovery Act (RCRA) permit (hereinafter referred to as the "permit") to EQ Resource Recovery, Inc. (hereinafter referred to as the "Permittee" or addressed in the second person as "you") in connection with the hazardous waste treatment, storage, and disposal activities at EQ Resource Recovery, Inc.

This permit is issued under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984 (42 USC § 6901 *et seq.*) (collectively referred to as RCRA) and U.S. EPA's regulations promulgated thereunder (codified, and to be codified, in Title 40 of the Code of Federal Regulations (40 CFR)).

This permit addresses Federal RCRA regulations for which the state has not yet been authorized.

The RCRA permit is comprised of both this permit, which contains the effective federal RCRA permit conditions, and the effective state RCRA license conditions issued by the State of Michigan's RCRA program authorized under 40 CFR Part 271 (hereinafter called the "State-

issued portion of the RCRA permit"). Any hazardous waste activity, which requires a RCRA permit and is not included in the RCRA permit, is prohibited.

#### **Permit Approval:**

On October 30, 1986, the State of Michigan received final authorization pursuant to Section 3006 of RCRA, 42 USC § 6926, and 40 CFR Part 271, to administer the pre-HSWA RCRA hazardous waste program. The State of Michigan has also received final authorization to administer certain additional RCRA requirements on several occasions since then. However, because the U.S. EPA has not yet authorized the State of Michigan to administer newly listed waste, the U.S. EPA Region 5 is issuing the RCRA permit requirements for those wastes managed at the Permittee's facility.

You must comply with all terms and conditions contained in this permit. This permit consists of all the conditions contained herein, all documents attached hereto and all documents listed or cross-referenced in these documents, approved submittals (including plans, schedules and other documents), and the applicable regulations contained in 40 CFR Parts 124, 260, 261, 262, 264, 268, 270, and applicable provisions of RCRA.

This permit is based on the assumptions that: (1) the information submitted in the Permittee's RCRA permit application dated December 1997, and in any subsequent modifications to that application (hereinafter referred to as the "Application") is accurate, and (2) the facility is configured, operated and maintained as specified in the permit, and as described in the permit application.

Any inaccuracies in the submitted information may be grounds for the U.S. EPA to terminate, revoke and reissue, or modify this permit in accordance with 40 CFR §§ 270.41, 270.42 and 270.43; and for enforcement action. You must inform the U.S. EPA of any deviation from, or changes in, the information in the Application that might affect your ability to comply with the applicable regulations or conditions of this permit.

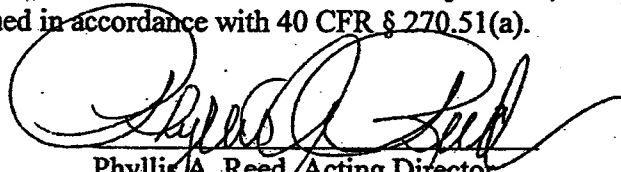
#### **Opportunity to Appeal:**

Petitions for review must be submitted within 30 days after the U.S. EPA serves notice of the final permit decision. Any person who filed comments on the draft permit or participated in the public hearing may petition the Environmental Appeals Board to review any condition of the permit decision. Any person who failed to file comments or failed to participate in the public hearing on the draft permit may file a petition for review only to the extent of the changes from the draft to the final permit decision. The procedures for permit appeals are found in 40 CFR § 124.19.

**Effective Date:**

This permit is effective as of April 11, 2003 and will remain in effect until April 11, 2013, unless revoked and reissued under 40 CFR § 270.41, terminated under 40 CFR § 270.43, or continued in accordance with 40 CFR § 270.51(a).

By:



Phyllis A. Reed, Acting Director  
Waste, Pesticides and Toxics Division

Date:

APR 11 2003

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## **SECTION I—STANDARD PERMIT CONDITIONS**

### **I.A EFFECT OF PERMIT**

The RCRA permit is comprised of both this permit, which contains the effective federal RCRA permit conditions, and the effective state RCRA license. You are hereby allowed to manage hazardous waste in accordance with this permit. Under this permit, the storage and treatment of RCRA hazardous waste must comply with all terms and conditions in this permit. Other aspects of the storage and treatment of RCRA hazardous wastes are subject to the conditions in the state-issued portion of the RCRA permit. Any hazardous waste activity, which requires a RCRA permit and is not included in this permit, is prohibited.

Subject to 40 CFR § 270.4, compliance with the RCRA permit during its term generally constitutes compliance for purposes of enforcement with Subtitle C of RCRA. (40 CFR § 270.4)

This permit does not: (1) convey any property rights or any exclusive privilege (40 CFR § 270.30(g)); (2) authorize any injury to persons or property, or invasion of other private rights; or (3) authorize any infringement of state or local law or regulations. Compliance with the terms of this permit does not constitute a defense to any order issued, or any action brought, under: (1) Sections 3008(a), 3008(h), 3013, or 7003 of RCRA; (2) Sections 104, 106(a), or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 USC §§ 9601 *et seq.* (commonly known as CERCLA); or (3) any other law protecting human health, welfare, or the environment.

### **I.B PERMIT ACTIONS**

#### **I.B.1 Permit Review, Modification, Revocation and Reissuance, and Termination**

The U.S. EPA may review and modify, revoke and reissue, or terminate this permit for cause, as specified in 40 CFR § 270.41, § 270.42, and § 270.43. The U.S. EPA may also review and modify this permit, consistent with 40 CFR § 270.41, to include any terms and conditions it determines are necessary to protect human health and the environment under Section 3005(c)(3) of RCRA. The filing of a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance on your part will not stay the applicability or enforceability of any permit condition. (40 CFR § 270.30(f))

You must not perform any construction associated with a Class 3 permit modification request until such modification request is granted and the modification becomes effective.

You may perform construction associated with a Class 2 permit modification request beginning 60 days after submission of the request unless the Director establishes a later date. (40 CFR § 270.42(b)(8))

#### **I.B.2 Permit Renewal**

This permit may be renewed as specified in 40 CFR § 270.30(b) and Condition I.E.2 of this permit. In reviewing any application for a permit renewal, the U.S. EPA will consider improvements in the state of control and measurement technology, and changes in applicable regulations. (40 CFR § 270.30(b) and RCRA Section 3005(c)(3))

### **I.C SEVERABILITY**

This permit's provisions are severable; if any permit provision, or the application of any permit provision to any circumstance, is held invalid, such provision's application to other circumstances and the remainder of this permit will not be affected. Invalidity of any statutory or regulatory provision on which any condition of this permit is based does not affect the validity of any other statutory or regulatory basis for that condition. (40 CFR § 124.16(a))

### **I.D DEFINITIONS**

The terms used in this permit will have the same meaning as in 40 CFR Parts 124, 260 through 266, 268 and 270, unless this permit specifically provides otherwise. Where neither the regulations nor the permit define a term, the term's definition will be the standard dictionary definition or its generally accepted scientific or industrial meaning.

### **I.E DUTIES AND REQUIREMENTS**

#### **1.E.1 Duty to Comply**

You must comply with all conditions of this permit, except to the extent and for the duration for which an emergency permit authorizes such noncompliance (see 40 CFR § 270.61). Any permit noncompliance, except under the terms of an emergency permit, constitutes a violation of RCRA and will be grounds for: enforcement action; permit termination; revocation and reissuance; modification; or denial of a permit renewal application. (40 CFR § 270.30(a))

#### **1.E.2 Duty to Reapply**

If you wish to continue the permit regulated activities after the expiration date, you must apply for and obtain a new permit. You must submit a complete application for a new

permit at least 180 days before the permit expiration date, unless the Director grants permission for a later submittal date. The Director will not grant permission to submit the complete application for a new permit later than the permit's expiration date. (40 CFR § 270.10(h), and § 270.30(b))

### **I.E.3 Permit Expiration**

Unless revoked or terminated, this permit and all conditions herein will be effective for a fixed term not to exceed 10 years from this permit's effective date. This permit and all conditions herein will remain in effect beyond the permit's expiration date if you have submitted a timely, complete application (40 CFR § 270.10 and §§ 270.13 through 270.29), and, through no fault of your own, the Director has not made a final determination regarding permit reissuance. (40 CFR §§ 270.50, and 270.51)

### **I.E.4 Need to Halt or Reduce Activity Not a Defense**

In an enforcement action, you are not entitled to a defense that it would have been necessary to halt or reduce the permitted activity to maintain compliance with this permit. (40 CFR § 270.30(c))

### **I.E.5 Duty to Mitigate**

In the event of noncompliance with this permit, you must take all reasonable steps to minimize releases to the environment resulting from the noncompliance and must implement all reasonable measures to prevent significant adverse impacts on human health or the environment. (40 CFR § 270.30(d))

### **I.E.6 Proper Operation and Maintenance**

You must always properly operate and maintain all facilities and treatment and control systems (and related appurtenances) that you install or use to comply with this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires you to operate back-up or auxiliary facilities or similar systems only when necessary to comply with this permit. (40 CFR § 270.30(e))

### **I.E.7 Duty to Provide Information**

You must provide the Director, within a reasonable time, any relevant information that the Director requests to determine whether there is cause to modify, revoke and reissue, or terminate this permit, or to determine permit compliance. You must also provide the

Director, upon request, with copies of any records this permit requires. The information you must maintain under this permit is not subject to the Paperwork Reduction Act of 1980, 44 USC §§ 3501 *et seq.* (40 CFR §§ 264.74(a) and 270.30(h))

#### **I.E.8 Inspection and Entry**

Upon the presentation of credentials and other legally required documents, you must allow the Director or an authorized representative to (40 CFR § 270.30(i)):

**I.E.8.a** Enter at reasonable times upon your premises where a regulated activity is located or conducted, or where records must be kept under the conditions of this permit;

**I.E.8.b** Have access to and copy, at reasonable times, any records that you must keep under the conditions of this permit;

**I.E.8.c** Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

**I.E.8.d** Sample or monitor any substances at any location at reasonable times, to ensure permit compliance or as RCRA otherwise authorizes.

Notwithstanding any provision of this permit, U.S. EPA retains the inspection and access authority which it has under RCRA and other applicable laws.

#### **I.E.9 Monitoring and Records**

**I.E.9.a** Samples and measurements taken for monitoring purposes must be representative of the monitored activity. The methods used to obtain a representative sample of the wastes, contaminated media, treatment residue, or other waste to be analyzed must be the appropriate methods from Appendix I of 40 CFR Part 261, or the methods specified in the state-approved waste analysis plan, or an equivalent method approved by the Director. Laboratory methods must be those specified in *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods* (SW-846, latest edition), *Methods for Chemical Analysis of Water and Wastes* (EPA 600/4-79-020), or an equivalent method, as specified in the referenced waste analysis plan. (40 CFR § 270.30(j)(1))

**I.E.9.b** You must retain, at the facility, all records as specified in 40 CFR § 264.74.

**I.E.9.c** You must submit all monitoring results at the intervals specified in this permit.

**I.E.9.d** You must retain all reports, records, or other documents, required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the reports, records, or other documents, unless a different period is specified in this permit. The 3-year period may be extended by request of the Director at any time and is automatically extended during the course of any unresolved enforcement action regarding this facility. (40 CFR §§ 270.30(j) and 270.31))

**I.E.10 Reporting Planned Changes**

You must notify the Director as soon as possible of any planned physical alterations or additions to the permitted facility. (40 CFR § 270.30(l)(1))

**I.E.11 Reporting Anticipated Noncompliance**

You must notify the Director, in advance, of any planned changes in the permitted facility or activity that may result in permit noncompliance. Advance notice will not constitute a defense for any noncompliance. (40 CFR § 270.30(l)(2))

**I.E.12 Transfer of Permits**

This permit is not transferable to any person, except after notice to the Director. You must inform the Director and obtain prior approval of the Director before transferring ownership or operational control of the facility (40 CFR § 270.42, Appendix I). Under 40 CFR § 270.40, the Director may require permit modification, or revocation and reissuance to change the Permittee's name and incorporate other RCRA requirements. Before transferring ownership or operation of the facility during its operating life, you must notify the Director and obtain prior approval and notify the new owner or operator in writing of the requirements of this permit and the requirements of 40 CFR Parts 264, 268, and 270. (40 CFR §§ 264.12(c), 270.30(l)(3), and 270.40(a))

**I.E.13 Twenty-Four Hour Reporting**

**I.E.13.a** You must report to the Director any noncompliance with this permit that may endanger human health or the environment. Any such information must be promptly reported orally, but no later than 24 hours after you become aware of the noncompliance.

**I.E.13.b** The report must include the following information (40 CFR §§ 270.30(1)(6) and 270.33): (1) release of any hazardous waste that may endanger public drinking water supplies; (2) release or discharge of hazardous waste; or (3) fire or explosion from the hazardous waste management facility, that could threaten the environment or human health outside the facility. You must include the following information:

- (1) Name, title and telephone number of the person making the report;
- (2) Name, address and telephone number of the facility;
- (3) Name, address and telephone number of owner or operator;
- (4) Date, time and type of incident;
- (5) Location and cause of incident;
- (6) Identification and quantity of material(s) involved;
- (7) Extent of injuries, if any;
- (8) Assessment of actual or potential hazards to the environment and human health outside the facility, where applicable;
- (9) Description of any emergency action taken to minimize the threat to human health and the environment; and
- (10) Estimated quantity and disposition of recovered material that resulted from the incident.

**I.E.13.c** In addition to the oral notification required under Conditions I.E.14.a and I.E.14.b of this permit, a written report must also be provided within 5 calendar days after you become aware of the circumstances. The written report must include, but is not limited to, the following:

- (1) Name, address and telephone number of the person reporting;
- (2) Incident description (noncompliance and/or release or discharge of hazardous waste), including cause, location, extent of injuries, if any, and an assessment of actual or potential hazards to the environment and human health outside the facility, where applicable;

- (3) Period(s) in which the incident (noncompliance and/or release or discharge of hazardous waste) occurred, including exact dates and times;
- (4) Whether the incident's results continue to threaten human health and the environment, which will depend on whether the noncompliance has been corrected and/or the release or discharge of hazardous waste has been adequately cleaned up; and
- (5) If the noncompliance has not been corrected, the anticipated period for which it is expected to continue, and the steps taken or planned to reduce, eliminate, and prevent the recurrence of the noncompliance.

The Director may waive the requirement that written notice be provided within 5 calendar days; however, you will then be required to submit a written report within 15 calendar days of the day on which you must provide oral notice, in accordance with Conditions I.E.14.a and I.E.14.b of this permit. (40 CFR § 270.30(1)(6))

#### **I.E.14 Other Noncompliance**

You must report all instances of noncompliance not reported under Condition I.E.14 of this permit, when any other reports this permit requires are submitted. The reports must contain the information listed in Condition I.E.14. (40 CFR § 270.30(1)(10))

#### **I.E.15 Other Information**

**I.E.15.a** Whenever you become aware that you failed to submit or otherwise omitted any relevant facts in the permit application or other submittal, or submitted incorrect information in the permit application or other submittal, you must promptly notify the Director of any incorrect information or previously omitted information, submit the correct facts or information, and explain in writing the circumstances of the incomplete or inaccurate submittal. (40 CFR § 270.30(1)(11))

**I.E.15.b** All other requirements contained in 40 CFR § 270.30 not specifically described in this permit are incorporated into this permit and you must comply with all those requirements.

**I.F SIGNATORY REQUIREMENT**

You must sign and certify all applications, reports, or information this permit requires, or which are otherwise submitted to the Director, in accordance with 40 CFR § 270.11. (40 CFR § 270.30(k))

**I.G REPORTS, NOTIFICATIONS AND SUBMITTALS TO THE DIRECTOR**

Except as otherwise specified in this permit, all reports, notifications, or other submittals that this permit requires to be submitted to the Director should be sent by certified mail or hand-delivered to the U.S. Environmental Protection Agency, Region 5, at the following address:

Waste Management Branch, DW-8J  
Waste, Pesticides and Toxics Division  
U.S. EPA Region 5  
77 West Jackson Boulevard  
Chicago, Illinois 60604

**I.H CONFIDENTIAL INFORMATION**

In accordance with 40 CFR Part 2 Subpart B, you may claim any information this permit requires, or is otherwise submitted to the Director, as confidential. You must assert any such claim at the time of submittal in the manner prescribed on the application form or instructions, or, in the case of other submittals, by stamping the words "Confidential Business Information" on each page containing such information. If you made no claim at the time of submittal, the Director may make the information available to the public without further notice. If you assert a claim, the information will be treated in accordance with the procedures in 40 CFR Part 2. (40 CFR § 270.12)

**I.I DOCUMENTS TO BE MAINTAINED AT THE FACILITY**

You must maintain at the facility, until closure is completed and certified by an independent registered professional engineer, the following documents and all amendments, revisions, and modifications to them.

**I.I.1 Operating Record**

You must maintain in the facility's operating record the documents required by this permit, and by the applicable portions of 40 CFR §§ 264.1035, 264.1064, 264.1084, 264.1088, 264.1089 and 40 CFR § 264.73 (as they apply to the equipment used to comply with this permit).



### **I.I.2 Notifications**

You must maintain notifications from generators accompanying initial incoming shipment of wastes subject to 40 CFR Part 268 Subpart C, that specify treatment standards, as required by 40 CFR §§ 264.73, 268.7, and this permit.

### **I.I.3 Copy of Permit**

You must keep a copy of this permit on site, including all the documents listed in any attachments, and you must update it as necessary to incorporate any official permit modifications.

## **I.J ATTACHMENTS AND DOCUMENTS INCORPORATED BY REFERENCE**

**I.J.1** All attachments and documents that this permit requires to be submitted, if any, including all plans and schedules are, upon the Director's approval, incorporated into this permit by reference and become an enforceable part of this permit. Since required items are essential elements of this permit, failure to submit any of the required items or submission of inadequate or insufficient information may subject you to enforcement action under Section 3008 of RCRA. This action may include fines, or permit suspension or revocation.

**I.J.2** This permit also includes the documents attached hereto, all documents cross-referenced in these documents, and the applicable regulations contained in 40 CFR Parts 124, 260, 261, 262, 264, 268, 270, and the applicable provisions of RCRA, all of which are incorporated herein by reference.

**I.J.3** Any inconsistency or deviation from the approved designs, plans and schedules is a permit noncompliance. The Director may grant written requests for extensions of due dates for submittals required in this permit.

**I.J.4** If the Director determines that actions beyond those provided for, or changes to what is stated herein, are warranted, the Director may modify this permit according to procedures in Condition I.B of this permit.

**I.J.5** If any documents attached to this permit are found to conflict with any of the Conditions in this permit, the Condition will take precedence.

**I.K COORDINATION WITH THE CLEAN AIR ACT**

You must fully comply with all applicable Clean Air Act (CAA) and RCRA permit limits. Where two or more operating limitations apply, the most stringent operating limitations take precedence.

**SECTION II -- OTHER FEDERAL RCRA REQUIREMENTS**

**II.A ADDITIONAL HAZARDOUS WASTE NUMBERS**

In addition to the hazardous waste numbers listed in the state-issued portion of the RCRA permit, you may handle the newly listed hazardous wastes, promulgated under the HSWA, at your facility only if you have processed a Class 2 permit modification in accordance with 40 CFR § 270.42(g) and approved by the Director. All handling of these wastes must comply with the applicable provisions of both the state-issued portion and the federally-issued portion of the RCRA permit.

U.S. EPA Hazardous Waste Numbers: K-174 and K-175

# ***Treatment Services***

## **Chemical Recycling**

EQRR reclaims spent solvents using a thin film evaporation process. The spent solvents are fed into our thin-film evaporators, where rotor blades spread the spent solvents uniformly over a thermal wall that vaporizes the material. The vapors are then cooled and recondensed back into liquid form. These recycled solvents can then be resold to industrial users or further refined via Fractional Distillation.

## **Fractional Distillation**

The Fractional Distillation Column processes chemicals to meet end user specifications for reuse. The column features several heat zones that can be used to distill out both liquid and solid contaminants. With our versatile equipment and extensive distillation experience, our customers have yet another viable alternative for chemical recycling or reuse.

## **Fuel Blending**

Hydrocarbon waste streams are combined in our blending tanks to produce a waste derived fuel product that varies according to the specifications of different cement kiln operations. The facility utilizes seven tanks with a total capacity of 118,400 gallons in the blending process and is permitted to blend up to 85,000 gallons of waste-derived fuel per day.

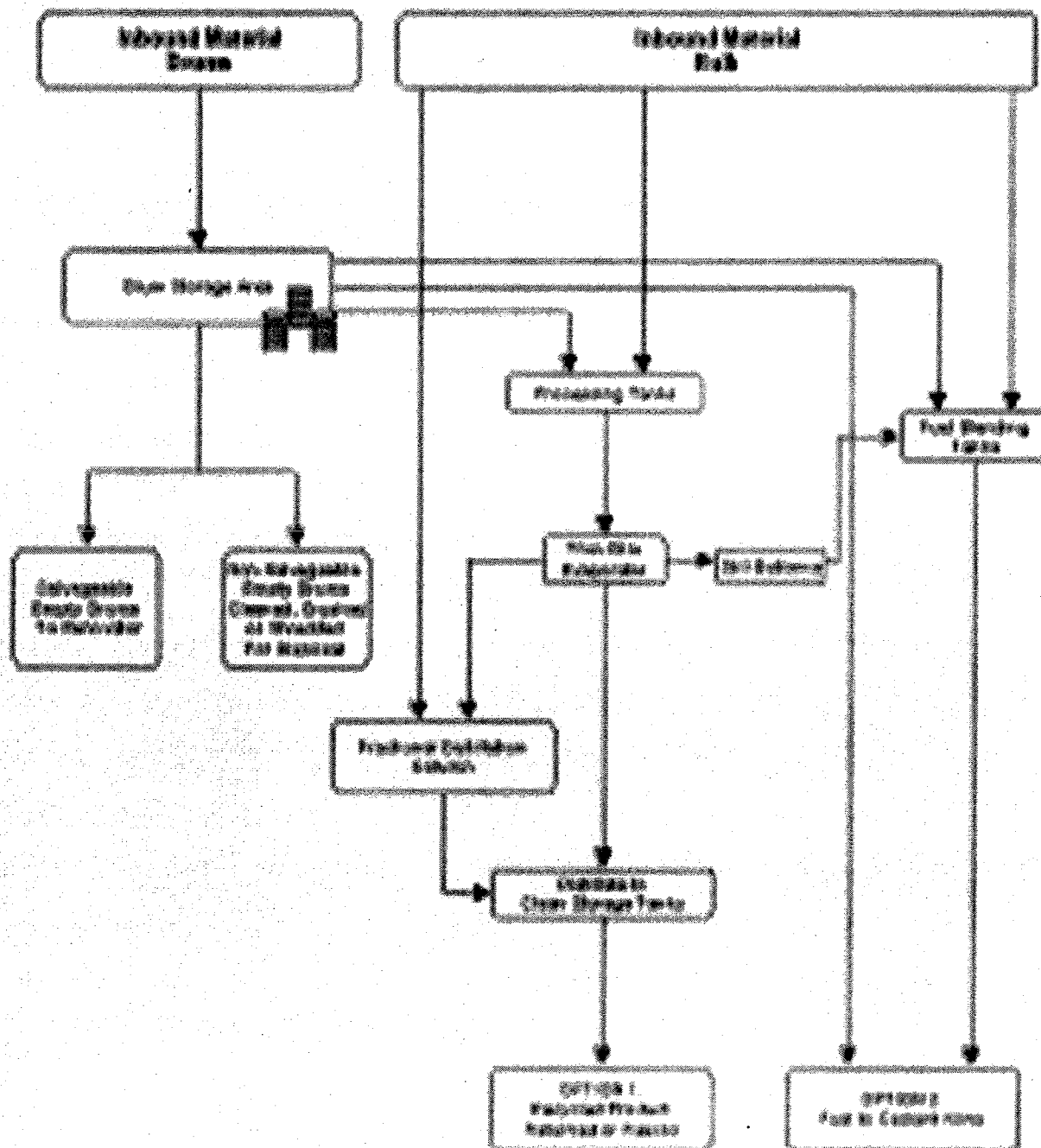
## **Wastewater Treatment**

We employ physical and chemical treatment technologies to remove organics, metals and suspended solids from landfill leachate, wash waters, cooling tower waters and other contaminated process waste waters. This effective pre-treatment enables us to discharge into the City of Detroit sewer system (by permit) for additional treatment by the Detroit Water and Sewage Department. In addition to our other waste water treatment options, EQRR has the capability to dewater nonhazardous industrial waste streams with a high amount of suspended solids, through the use of a filter press. The press removes soluble solids from nonhazardous homogeneous pumpable waste streams. This method allows us to handle large volumes, specialized industrial streams and offer pricing competitive with other treatment options.

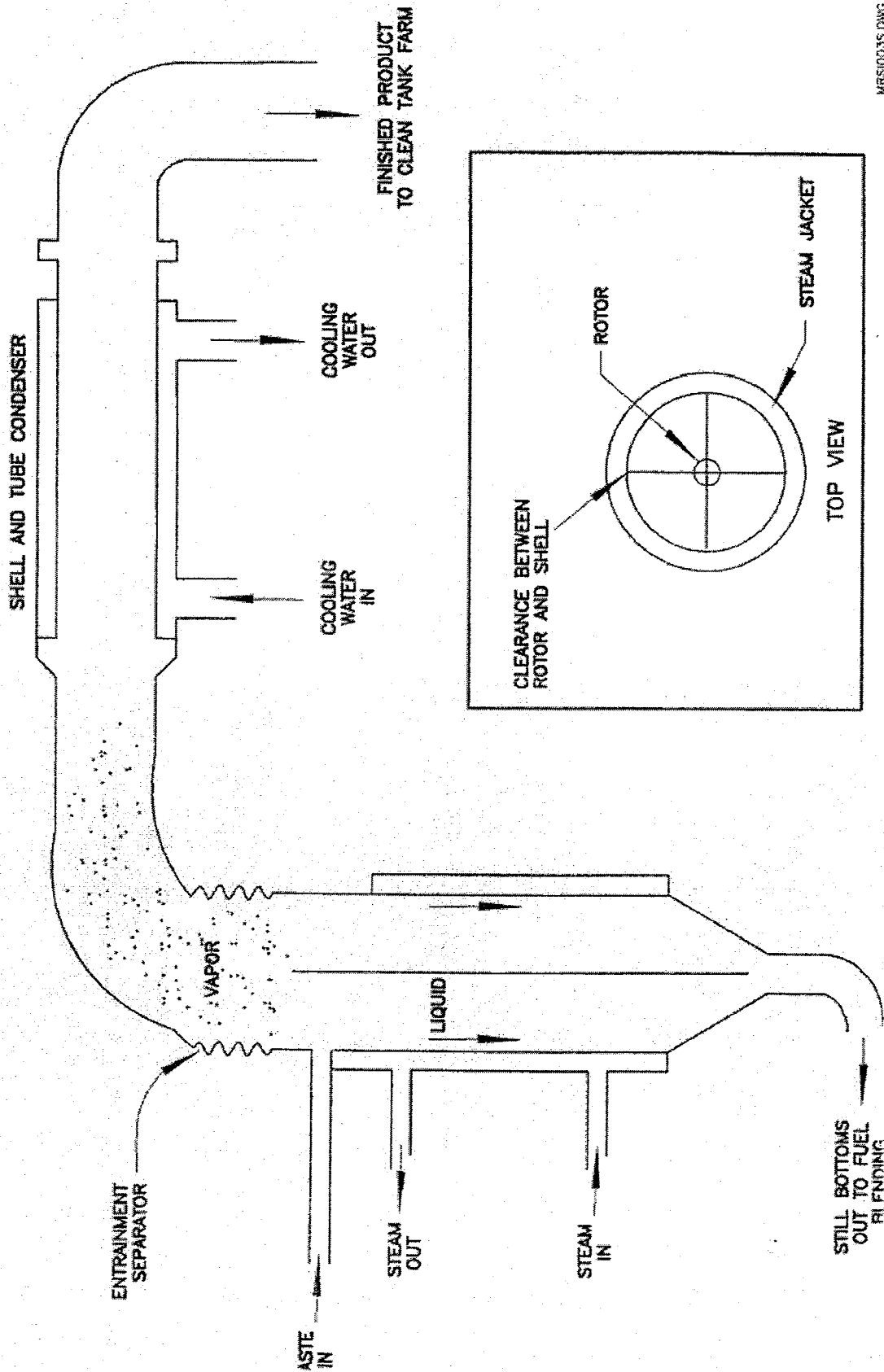
## **Oil-Water Separation**

We use heat and chemicals to break oil-water emulsions. Oils are recovered and sold to rerefining operations, while the waste water is treated on site and discharged into the City of Detroit sewer system under our discharge permit.

# Process Flow Diagram

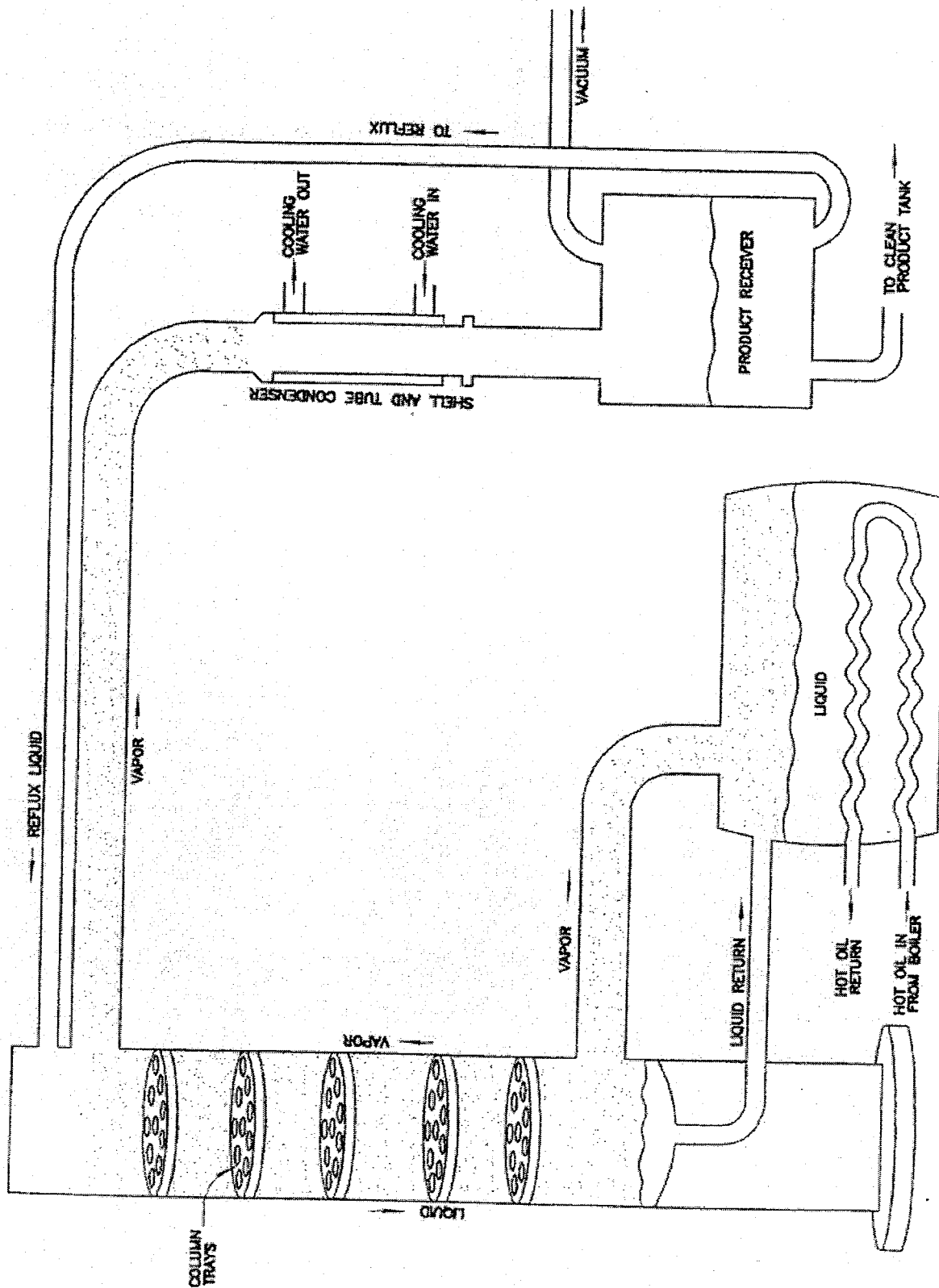


# Thin-Film Evaporator



MRS0003.DWG  
AK/11/08 HYS

# Vacuum Fractional Distillation



MRS10033S.DWG  
05/13/96 N.T.



DEQ

State of Michigan  
Department of Environmental Quality  
**HAZARDOUS WASTE MANAGEMENT FACILITY OPERATING LICENSE**

NAME OF LICENSEE: Wayne Disposal, Inc.

NAME OF OWNER: Wayne Disposal, Inc.

NAME OF OPERATOR: Wayne Disposal, Inc.

NAME OF TITLEHOLDER OF LAND: Wayne Disposal, Inc.

FACILITY NAME: Wayne Disposal, Inc. Site #2

FACILITY LOCATION: 49350 North I-94 Service Drive

EPA IDENTIFICATION NUMBER: MID 048 090 633

EFFECTIVE DATE: April 14, 1997

REAPPLICATION DATE: October 14, 2006

EXPIRATION DATE: April 14, 2007

AUTHORIZED ACTIVITIES

MODIFICATION DATE: July 13, 2001

Pursuant to Part 111, Hazardous Waste Management, of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), being §§324.11101 to 324.11152 of the Michigan Compiled Laws, and the hazardous waste management administrative rules (hereafter called the "rules") promulgated thereunder, being R 299.9101 et. seq. of the Michigan Administrative Code, by the Michigan Department of Environmental Quality (MDEQ), an operating license (hereafter called the "license") is issued to (hereafter called the "licensee") to operate a hazardous waste facility located in at latitude 42°13'30"N and longitude 83°31'00"W. The licensee is authorized to conduct the following hazardous waste management activities:

☐ STORAGE

- ☐ Container
- ☐ Tank
- ☐ Waste Pile
- ☐ Surface Impoundment
- ☐ Drip Pad

☐ TREATMENT

- ☐ Container
- ☐ Tank
- ☐ Surface Impoundment
- ☐ Incinerator
- ☐ Other:

☒ DISPOSAL

- ☒ Landfill
- ☐ Land Application
- ☐ Surface Impoundment

☒ POST CLOSURE

- ☐ Tank
- ☐ Surface Impoundment
- ☒ Landfill
- ☐ Waste Pile

**APPLICABLE REGULATIONS AND LICENSE APPROVAL**

The conditions of this license were developed in accordance with the applicable provisions of the rules, effective September 11, 2000. The licensee shall comply with all terms and conditions of this license. This license consists of the pages of conditions attached hereto (including those in any Attachments 1 through 18) and the applicable regulations contained in R 299.9101 through R 299.11008 as specified in the license. For purposes of compliance with this license, applicable rules are those which are in effect on the date of issuance of this license in accordance with R 299.9521(3)(a).

This license is based on the information submitted in the license application submitted on March 15, 1995 and any subsequent amendments (hereafter referred to as "the application"). Pursuant to R 299.9519(11)(c), the license may be revoked if the licensee fails, in the application or during the license issuance process, to disclose fully all relevant facts or, at any time, misrepresents any relevant facts. As specified in R 299.9519(1), the facility shall be constructed, operated, and maintained in accordance with Part 111 of Act 451, the rules, and this license.

This license is effective on the date of issuance and shall remain in effect for ten years from the date of issuance, unless revoked pursuant to R 299.9519 or continued in effect as provided by the Michigan Administrative Procedures Act, 1969 PA 306, as amended (Act 306).

Modified this 13th day of July, 2001.

by   
Jim Sygo, Chief  
Waste Management Division



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**PART I**

**STANDARD CONDITIONS**

**A. TERMINOLOGY**

Throughout this license, "Act 451" means Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, and "rules" means the hazardous waste management administrative rules promulgated pursuant to Part 111 of Act 451, as in effect on the date of issuance of this license. The term "Waste Management Division" means the division within the Michigan Department of Environmental Quality (MDEQ) responsible for administering Part 111 of Act 451 and the rules. Throughout this license, "Director" means the Director of the MDEQ or the Director's duly authorized designee such as the Chief of the Waste Management Division of the MDEQ.

**B. EFFECT OF LICENSE**

Except as otherwise provided by law, any treatment, storage, or disposal of hazardous waste not specifically authorized in this license is prohibited. Issuance of this license does not convey property rights of any sort or any exclusive privilege {R 299.9516(7) and 40 Code of Federal Regulations (CFR) §270.30(g), which is adopted by reference (ABR) in R 299.11003}; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of federal, state, or local law or regulations {R 299.9516(8)}; nor does it obviate the necessity of obtaining such permits or approvals from other units of government as may be required by law. Compliance with the terms of this license does not constitute a warranty or representation of any kind by the MDEQ, nor does the MDEQ intend that compliance with this license constitutes a defense to any order issued or any action brought under Act 451 and any other applicable state statute and Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) {42 USC 9606(a)}, the Resource Conservation and Recovery Act of 1976, as amended (RCRA), and its rules, and any other applicable federal statute. The licensee, however, does not represent that it will not argue that compliance with the terms of this license may be a defense to such future regulatory actions. Each attachment to this license is a part of, and is incorporated into, this license and is deemed an enforceable part of the license.

**C. LICENSE ACTIONS**

This license may be modified or revoked in accordance with R 299.9519. The filing of a request for a license modification or revocation, or the notification of planned changes or anticipated noncompliance on the part of the licensee does not stay the applicability or enforceability of any license condition. {R 299.9519, R 299.9521(1)(a) and 40 CFR §270.30(f), which is ABR in R 299.11003}

**D. SEVERABILITY**

The provisions of this license are severable, and if any provision of this license, or the application of any provision of this license to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this license shall not be affected thereby.

**E. RESPONSIBILITIES**

1. The licensee shall comply with Part 111 of Act 451, the rules, and all conditions of this license, except to the extent authorized by the MDEQ pursuant to the terms of an emergency operating license. {R 299.9521(1)(a) and (3)(a) and (b), and 40 CFR §270.30(a); which is ABR in R 299.11003}

- (g) Submission of Statements and Certifications for Construction and Capability. The licensee shall submit to the Chief of the Waste Management Division, by certified mail or hand delivery, a letter signed by the licensee and a registered professional engineer stating that the facility has been constructed or modified in compliance with the license and approved plans and the certifications of construction and capability required pursuant to Section 11123(3) of Act 451. The licensee shall not treat, store, or dispose of hazardous waste in the modified portion of the facility until one of the following conditions is met:
    - (i) The Chief of the Waste Management Division, or the authorized representative, has inspected the modified facility and finds it is in compliance with the conditions of the license;
    - (ii) If within 15 days of the date of submission of the letter in Condition I.E.1.(g) of this license, the licensee has not received notice from the Chief of the Waste Management Division of his or her intent to inspect, prior inspection is waived, and the licensee may commence treatment, storage, or disposal of hazardous waste.  
{R 299.9521(1)(b)(ii)}
  - (h) Anticipated Noncompliance. The licensee shall give advanced notice to the Chief of the Waste Management Division as soon as the licensee becomes aware of any planned changes or activity in the licensed facility which may result in noncompliance with license requirements.  
{R 299.9521(1)(a) and 40 CFR §270.30(l)(2), which is ABR in R 299.11003}
  - (i) Transfer of License. The licensee shall obtain the approval of the Chief of the Waste Management Division, by a modification to the license, prior to transferring ownership or operation of the facility to another person. In addition, the licensee shall comply with the requirements of R 299.9605 when transferring the ownership of the facility. The new owner/operator shall not accept hazardous waste at the facility unless the license modification has been issued by the Chief of the Waste Management Division. {R 299.9522}
  - (j) Other Information. Whenever the licensee becomes aware that he/she failed to submit any relevant facts in the license application, or submitted incorrect information in a license application or in any report to the Chief of the Waste Management Division, the licensee shall promptly submit such facts or information. {R 299.9521(1)(a) and 40 CFR §270.30(l)(11), which is ABR in R 299.11003}
2. The licensee shall comply with the requirements of 40 CFR §270.30(c)-(e) and (h)-(j), including those requirements pertaining to:
- (a) Need to halt or reduce activity not a defense,
  - (b) Duty to mitigate,
  - (c) Proper operation and maintenance,
  - (d) Duty to provide information,
  - (e) Inspection and entry,
  - (f) Monitoring and records.
- {R 299.9521(1)(a) and 40 CFR §270.30(c)-(e) and (h)-(j), which are ABR in R 299.11003}

## **PART II**

### **GENERAL OPERATING CONDITIONS**

#### **A. DESIGN AND OPERATION OF FACILITY**

The licensee shall maintain and operate the facility to prevent the possibility of a fire, explosion, or any sudden or non-sudden release of hazardous waste or hazardous waste constituents to the environment, including air, soil, or waters of the State which could threaten human health or welfare or the environment. {R 299.9602, R 299.9606, R 299.9607, and 40 CFR §§264.31 and 264.51, which are ABR in R 299.11003}

#### **B. REQUIRED NOTICE**

1. The licensee shall notify the Chief of the Waste Management Division in writing at least four weeks in advance of the date the licensee expects to receive hazardous waste from a foreign source. Notice of subsequent shipments of the same waste from the same foreign source is not required. When receiving such hazardous waste, the licensee shall comply with applicable laws, including, but not limited to, any treaties or other agreements entered into between the country in which the foreign source is located and the United States. {R 299.9605(1) and 40 CFR §264.12(a), which is ABR in R 299.11003}
2. When the licensee is to receive hazardous waste from an off-site source (except where the licensee is also the generator), he must inform the generator in writing that he has the appropriate license for, and will accept, the waste the generator is shipping. The licensee must keep a copy of this written notice as part of the operating record (see Condition II.L.1. of this license). {R 299.9605(1) and 40 CFR §264.12(b), which is ABR in R 299.11003}

#### **C. GENERAL WASTE ANALYSIS**

The licensee shall ensure that any waste stored, treated, or disposed at the facility has been properly characterized pursuant to R 299.9302, and comply with the procedures described in the attached waste analysis plan, Attachment 1 of this license. {R 299.9605(1), and 40 CFR §264.13, which is ABR in R 299.11003}

#### **D. QUALITY ASSURANCE/QUALITY CONTROL REQUIREMENTS**

The licensee shall ensure that all samples collected for the purposes of waste characterization and environmental monitoring are collected, transported, analyzed, stored, and disposed of by trained and qualified individuals in accordance with their Quality Assurance/Quality Control (QA/QC) Plan. The QA/QC Plan shall at a minimum include the written procedures outlined in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," U.S. Environmental Protection Agency (U.S. EPA) Publication SW-846, Third Edition, Chapter 1, and its Updates I (July 1992), II (September 1994), IIA (August 1993), and IIB (January 1995), and any facility or contractor's written standard operating procedures (SOPs) which are equivalent or more stringent than SW-846, Chapter 1. The licensee shall make the written QA/QC Plan available to the Chief of the Waste Management Division or an authorized representative upon request. {R 299.9521(3)(a) and (b) and R 299.9611(2)}

#### **E. SECURITY**

The licensee shall comply with the security requirements of R 299.9605(1) and 40 CFR §264.14, which is ABR in R 299.11003.

**L. RECORDKEEPING AND REPORTING**

1. Operating Record. The licensee shall maintain a written operating record at the facility, until closure of the facility. {R 299.9609 and 40 CFR §264.73 and Part 264, Appendix I, which are ABR in R 299.11003}
2. Biennial Report. The licensee shall comply with the biennial report requirements of R 299.9610. A single copy of the biennial report shall be submitted to the U.S. EPA, Region 5 Administrator by March 1 of each even numbered year. {R 299.9521(1)(a) and R 299.9610 and 40 CFR §270.30(l)(9), which is ABR in R 299.11003}
3. Environmental Monitoring Reports. The licensee shall submit the results of all environmental monitoring required by this license in the form of an Environmental Monitoring Report to the Chief of the Waste Management Division within 60 days of sample collection. In addition, at the same time, the licensee shall submit air monitoring results to the Wayne County Department of Environment, Air Quality Management Division. {R 299.9521(1)(a) and 40 CFR §270.30(l)(4), which is ABR in R 299.11003}
4. Environmental Monitoring Data Availability. The licensee shall provide environmental monitoring information or data which it generates to any local public official requesting such information or data. Such information or data shall be made available on the same day the licensee forwards this information to the Chief of the Waste Management Division. {R 299.9521(3)(b)}
5. Additional Environmental Sampling and Analysis. If the licensee conducts any additional environmental sampling or analysis beyond that required by this license, the results of such sampling or analysis shall be reported in accordance with Condition II.L.4. of this license. Such increased frequency shall also be indicated in the Environmental Monitoring Report. {R 299.9521(1)(a) and 40 CFR §270.30(l)(4), which is ABR in R 299.11003}
6. Reporting of Noncompliance. The licensee shall immediately report to the Chief of the Waste Management Division any noncompliance with the license that may endanger human health or the environment. The licensee shall fulfill this reporting requirement by doing both of the following:
  - (a) The licensee shall immediately contact the Chief of the Waste Management Division at 517-373-2730, if the noncompliance occurs during the period 8:00 a.m. to 5:00 p.m., Monday through Friday, except State holidays, or by calling the Department of Environmental Quality Pollution Emergency Alerting System (PEAS) telephone number 1-800-292-4706 during all other times. This report shall include the following:
    - (i) Information concerning the release or discharge of any hazardous waste or hazardous waste constituent which may endanger public drinking water supplies or the environment;
    - (ii) Information concerning the fire, explosion, or other release or discharge of any hazardous waste or hazardous waste constituent which could threaten human health or the environment or a spill that has reached surface water or groundwater;
    - (iii) A description of the occurrence and its cause, including all of the information outlined in R 299.9607(2)(a)-(i).

**O. COST ESTIMATE FOR FACILITY CLOSURE AND POST-CLOSURE**

1. At the time of issuance of this license, the closure cost estimate is \$6,144,258 and the post-closure cost estimate is \$5,218,386.
2. The licensee shall comply with the closure and post-closure cost estimate requirements of R 299.9702, including, but not limited to, adjustment of the closure and post-closure cost estimates and maintenance of the latest cost estimates at the facility. {R 299.9702 and 40 CFR §264.142 and 264.144, which are ABR in R 299.11003}.

**P. FINANCIAL ASSURANCE FOR FACILITY CLOSURE AND POST-CLOSURE**

1. The licensee shall provide and continuously maintain closure and post-closure financial assurance in accordance with R 299.9703 in an amount at least equal to the cost estimates required by Condition II.O. of this license. The licensee shall submit all proposed changes in the mechanism(s), other than renewals, extensions, or increases in the amount of assurance, to the Chief of the Waste Management Division and obtain his approval prior to implementation. The licensee shall provide the Chief of the Waste Management Division with a signed original of all revisions and renewals within 60 days after such revision or renewal, by the applicable deadlines specified in R 299.9704 through R 299.9709, and prior to the anniversary of the establishment of the financial mechanism(s) provided to satisfy the requirements of this condition.
2. Whenever the current closure or post-closure cost estimates increase to an amount greater than the current amount of the associated financial mechanisms, the licensee shall, within 60 days after the increase, either increase the amount of the mechanisms to an amount at least equal to the increased closure and post-closure cost estimates, or provide an additional financial mechanism approved by the Chief of the Waste Management Division for an amount at least equal to the difference between the current amount of financial assurance and the increased closure and post-closure cost estimates. Evidence of such increased financial assurance must be submitted to the Chief of the Waste Management Division during the 60-day period.

**Q. LIABILITY REQUIREMENTS**

The licensee shall continuously maintain liability coverage for sudden and accidental occurrences and non-sudden accidental occurrences, as required by R 299.9710, except as otherwise allowed by that rule. The licensee shall submit to the Chief of the Waste Management Division a signed original pollution liability insurance amendatory endorsement or other financial mechanism approved by the Chief of the Waste Management Division prior to the anniversary date of the establishment of the mechanism(s) used to satisfy the requirements of this condition. In the case of the financial test or corporate guarantee, the licensee shall submit the updated financial information within 90 days of the close of each succeeding fiscal year.

**R. WASTE MINIMIZATION**

The licensee shall certify at least annually that the licensee has a program in place to reduce the volume and toxicity of hazardous waste that the licensee generates to the degree determined by the licensee to be economically practicable; and the proposed method of treatment, storage, or disposal is the practicable method currently available to the licensee which minimizes the present and future threat to human health and the environment. The certification shall be recorded, as it becomes available, and maintained in the operating record until closure of the facility. {R 299.9609(1)(a), 40 CFR §264.73(b)(9), which is ABR in R 299.11003, and Section 3005(h) of RCRA, 42 U.S.C. Section 6925(h)}

**PART III**

**LANDFILL DISPOSAL CONDITIONS**

**A. COVERAGE OF LICENSE**

1. The hazardous waste landfill and related appurtenances (piping, pumps, operation and maintenance buildings, etc.) at the facility shown on Drawing 8 are covered by this license. Any expansion or enlargement beyond the design capacity of 11,000,000 cubic yards or beyond the area shown on Drawing 8 requires a construction permit from the Chief of the Waste Management Division. {R 299.9521(1)(b)}
2. Drawing 8 and the attached plans and specifications are incorporated into this license as Attachment 7.

**B. WASTE IDENTIFICATION AND QUANTITY**

1. The licensee, except to the extent prohibited under Condition V.B.3. below, may dispose a total volume of 11,000,000 cubic yards of hazardous and compatible nonhazardous waste which may include commercial and industrial sources and household hazardous wastes in the landfill, subject to the terms of this license. The licensee shall not dispose of any hazardous waste not listed in Attachment 8 of this license, unless the Chief of the Waste Management Division approves the disposal of such waste types through an amendment to this license. {R 299.9521(2)(d)}
2. The licensee, except to the extent prohibited under condition V.B.3. below, may dispose of PCB wastes listed in Attachment 8 of this license. This license constitutes authorization pursuant to Part 147 of Act 451 to dispose of PCB wastes. The licensee must also obtain written approval from U.S. EPA pursuant to the federal Toxic Substance Control Act (TSCA) prior to disposing any PCB waste in the landfill.
3. The licensee shall not accept for disposal any hazardous waste not listed in Attachment 8 of this license or any incompatible nonhazardous wastes or materials which meet any of the following criteria {R 299.9521(2)(d)}:
  - (a) Ignitable wastes as described in R 299.9212(1) {R 299.9619}
  - (b) Reactive wastes as described in R 299.9212(3) {R 299.9619}
  - (c) Bulk or noncontainerized liquid waste or waste containing free liquids. {R 299.9619(2) and 40 CFR §264.314(b), which is ABR in R 299.11003}
  - (d) Containers holding free liquids. {R 299.9619(5) and 40 CFR §264.314(d), which is ABR in R 299.11003}
  - (e) Waste which will:
    - (i) Adversely affect the permeability of the clay liner. {R 299.9521(3)(b), R 299.9619, and R 299.9620, and 40 CFR §264.301, which is ABR in R 299.11003}
    - (ii) Produce a leachate that is incompatible with the clay liner, leachate collection system piping, or the off-site sewer system. {R 299.9521(3)(b), R 299.9619, and R 299.9620(3), and 40 CFR §264.301, which is ABR in R 299.11003}
    - (iii) Generate gases that will adversely affect the permeability of the clay cap or create a violation of Part 55 of Act 451. {R 299.9602 and R 299.9619(5)(c)}

8. The licensee shall cover or otherwise manage the landfill to control dispersal of particulate matter. The cover shall consist of ConCover-TM, at least 15 cm of clean soil, or an equivalent other material approved by the Chief of the Waste Management Division. {R 299.9619 and 40 CFR §264.301(i), which is ABR in R 299.11003}
9. The licensee shall effectively control fugitive air emissions from construction activities, internal roads, and vehicle wash facilities at the landfill in such a manner that air emissions generated therefrom do not result in a violation of Part 55 of Act 451. {R 299.9602(1)(b)}
10. The licensee shall cease the placement of waste in the landfill when a rolling 60 minute wind speed average, recalculated at 10 minute intervals, reaches or exceeds 20 mph, or at any time the instantaneous wind speed reaches or exceeds 25 mph. The results of the calculated average wind speed and the maximum wind speed during the most recent 10 minute period shall be recorded while placement of waste is ongoing and maintained in the operating record. In the event of mechanical or electrical failure of the wind speed monitoring equipment, which cannot be immediately repaired, the licensee will contact WMD to develop alternative monitoring procedures. {R 299.9611(5) and R 299.9521(3)(b)}
11. The licensee shall operate and maintain a waste transport vehicle wash facility. The licensee shall ensure that all waste transport vehicles traveling on active portions of the site and vehicles that enter the landfill cell are cleaned and decontaminated at this facility before leaving the active area. {R 299.9521(3)(b)}
12. The licensee shall operate all vehicles in a manner that will minimize the contamination of facility haul roads (outside of active cell). {R299.9521(3)(b) and R 299.9604(1)(c)}
13. The licensee shall manage any waste generated at the vehicle wash facility in accordance with all applicable generator requirements under Part 111 of Act 451 and the rules. {R 299.9301(2)}
14. The licensee shall operate and maintain a leachate collection and removal system in accordance with R 299.9619, 40 CFR §264.301(a)(2), which is ABR in R 299.11003, and the attached plans and specifications in Attachment 7 of this license. The leachate captured by this system shall be treated as necessary and discharged to the municipal sewer system in accordance with the applicable pretreatment standards.

**D. WASTE PLACEMENT**

1. Prior to the placement of waste in the landfill, the licensee shall comply with Condition II.S. of this license. {R 299.9627 and 40 CFR Part 268, which is ABR in R 299.11003}
2. The licensee shall only allow placement of waste within the boundary of Master Cell VI while WDI personnel are present to observe and confirm that the waste is appropriate for disposal. All containerized waste placed on the transfer pad for sampling shall be removed within that operating day. {R 299.9521(3)(b)}



**F. ADDITIONAL REPORTING**

The licensee shall submit an annual inspection and maintenance summary report to the Chief of the Waste Management Division by March 1st of each year during the active life of the landfill and the post-closure care period. The annual inspection and maintenance report shall include the following:

1. A summary of all maintenance activities performed by the licensee to maintain the integrity of the active landfill.
2. A summary of all maintenance activities performed by the licensee to maintain the integrity of the final cover such as mowing, fertilization, and liming, and a copy of the associated inspection logs.  
{R 299.9521(2)(a) and (b) and 40 CFR §270.31, which is ABR in R 299.11003}

- (f) Prior to undertaking monitoring well or piezometer replacement or repair, the licensee shall obtain the written approval of the Waste Management Division, unless the location, design, and depth of the replacement monitoring well or piezometer remain unchanged. {R 299.9519(5)(c)(i)}
2. The licensee shall collect and analyze samples according to the schedule, parameters, and procedures specified in the Groundwater Monitoring Program Sampling and Analysis Plan, Attachment 9 of this license. The licensee shall submit proposed revisions to the Groundwater Monitoring Program Sampling and Analysis Plan to the Chief of the Waste Management Division for approval prior to implementation and shall revise any other affected document accordingly. If approved, the revisions shall become part of this operating license. {R 299.9519(5)(c)(ii), R 299.9611(2)(a), R 299.9612, and 40 CFR §264.97(d) and (e), which are ABR in R 299.11003}
3. The licensee shall submit an annual groundwater report to the Chief of the Waste Management Division no later than March 1 for the previous calendar year's activities. The report shall include a summary of groundwater quality data, data graphs, data tables, statistical analyses to date, and identification of any statistically significant increases (and/or pH decreases) pursuant to Conditions IV.A.6. and IV.A.11. of this license. The licensee shall determine the groundwater flow rate and direction in the monitored zones at least annually, and provide a groundwater contour map and flow net diagram from this data. This annual report is in addition to the reporting requirements of Condition II.L.4. of this license. {R 299.9612(1) and 40 CFR §264.97(j), which is ABR in R 299.11003}
4. Establishing Background. The licensee shall establish background groundwater quality values at monitoring well[s] for the parameters specified in Table 3 of Attachment H of The Groundwater Monitoring Program Sampling and Analysis Plan, Attachment 9 of this license.
- (a) Background values for the primary parameters shall be the laboratory detection limit for the chemical or in specific cases where the chemical may be present as a common laboratory contaminant, a more rigorously determined limit, as specified in Section 3.2 of The Statistical Monitoring Plan For Groundwater Monitoring, Attachment L of Attachment 9 of this license.
- (b) Background values for the secondary parameters shall be calculated annually for each monitoring well in accordance with the specifications contained in Section 3.2 of The Statistical Monitoring Plan For Groundwater Monitoring, Attachment L of Attachment 9 of this license.
- (c) In the event that groundwater quality at the upgradient wells shows a significant change, a petition may be submitted to the Chief of the Waste Management Division to re-establish background quality. Background values may be re-established only upon written approval of the Chief of the Waste Management Division.
- {R 299.9612(1)(d) and (e) and 40 CFR §264.97(a) and (g), which are ABR in R 299.11003}
5. Detection Monitoring Program. The licensee shall quarterly sample the monitoring wells listed in Table 3, and analyze each sample for the primary, secondary, and tertiary parameters listed in the Table. Data and evaluations must be submitted to the Chief of the Waste Management Division in accordance with the time frame specified in Condition II.L.4. of this license. Table 3 is included in Attachment H of the Groundwater Sampling and Analysis Plan of Attachment 9 of this license. {R 299.9612 and 40 CFR §264.98}

- (iii) Any proposed changes to the monitoring frequency, sampling and analysis procedures or methods, or statistical procedures used at the facility necessary to meet the requirements of R 299.9612.
  - (f) Within 180 days, submit to the Chief of the Waste Management Division a detailed description of corrective actions that shall achieve compliance with applicable laws and rules, including a schedule of implementation. Corrective action shall also meet the requirements of R 299.9629, and include a plan for a groundwater monitoring program that shall demonstrate the effectiveness of the corrective action. Such a groundwater monitoring program may be based on a compliance monitoring program developed to meet the requirements of 40 CFR §264.99, which is ABR in R 299.11003.
  - (g) During the period prior to a license modification requiring a compliance monitoring and corrective action program, the licensee shall provide the Chief of the Waste Management Division, or his or her designee, with weekly telephone updates and written reports every two weeks regarding the progress to date in determining the cause of contamination and eliminating the discharge. The licensee shall include in the written report the results of all samples from environmental monitoring conducted by the licensee.
9. If the licensee determines pursuant to Conditions IV.A.6. and IV.A.7. of this license that a statistically significant increase (or change in pH) in hazardous constituents has occurred in groundwater, it may demonstrate that a source other than the licensed facility caused the increase (or change in pH) or that the increase (or change in pH) resulted from error in sampling, analysis or evaluation. While the licensee may make a demonstration under this condition in addition to, or in lieu of, submitting a license modification application within the time specified in Condition IV.A.8.(e) of this license, the licensee is not relieved of the requirement to submit a license modification application within the time specified unless the demonstration made under this condition successfully shows that a source other than the licensed facility caused the increase (or change in pH) or that the increase (or change in pH) resulted from an error in sampling, analysis, or evaluation. In making a demonstration under this condition, the licensee shall:
- (a) Notify the Chief of the Waste Management Division within seven days of the determination that it intends to make a demonstration under this condition.
  - (b) Within 90 days of the determination, submit a report to the Chief of the Waste Management Division that demonstrates that a source other than the licensed facility solely caused the increase (or change in pH), or that the increase (or change in pH) was caused by error in sampling, analysis, or evaluation.
  - (c) Within 90 days of the determination, submit to the Chief of the Waste Management Division an application for a license modification to make any appropriate changes to the groundwater monitoring program at the facility.
  - (d) Continue to monitor groundwater in compliance with this license.  
{R 299.9612 and 40 CFR §264.98(g)(6), which is ABR in R 299.11003}

4. The licensee shall collect samples on a semi-annual basis from each of the (17) leachate collection sumps located in Master Cells V, VI, and VII.
  - (a) Samples shall be collected in accordance with the procedures specified in Section 4.0 of the Leachate Sampling and Analysis Plan, Attachment 10 of this license, and they shall be analyzed for the parameters listed on Table 6 of that same plan.
  - (b) In addition to monitoring the leachate for the parameters identified in Condition IV.B.4.(a), above, the licensee shall collect annual samples from one (1) sump location in each of Master Cells V, VI, and VII and analyze the samples for the 40 CFR Appendix IX parameters. A list of these parameters is contained on Table 7 in the Leachate Sampling and Analysis Plan, Attachment 10 of this license. The sampling locations in each master cell shall be rotated over a five (5) year period so that leachate from each of the thirteen (13) collection sumps will be characterized. Following completion of the initial five (5) year cycle, the Appendix IX sampling shall continue on this schedule for each open cell.
  - (c) If it is determined that the leachate contains organic constituents other than those that are routinely monitored as per Condition IV.B.4.(a) of this license, the licensee shall submit a written report to the Waste Management Division stating whether or not the parameter should be added to the leachate program. If, upon review of the report, the Waste Management Division determines that the parameter is present in significant concentrations in the leachate and/or may pose a serious environmental hazard due to the nature of the constituent, the licensee shall be required to add the parameter to the leachate program and it shall become a routine leachate indicator.
5. The licensee shall report leachate monitoring results as required by Condition II.L.3. of this license. This information shall be signed and certified in accordance with Condition I.F. of this license.
6. The licensee shall submit an annual leachate monitoring report to the Waste Management Division by March 1 of each year during the active life of the landfill and the post-closure care period.
  - (a) The annual leachate monitoring report shall be signed and certified in accordance with Condition I.F. of this license.
  - (b) During the active life of the landfill, the annual leachate monitoring report shall summarize the results of the leachate analytical data that was collected at the facility and recommend any refinements deemed necessary to the leachate and the groundwater and leak detection/lysimeter monitoring programs. If the licensee determines that organic chemicals are newly present or present at increased concentrations in the leachate, and a determination is made to add the parameter(s) to the leachate monitoring program, the parameters shall also be added to the groundwater and the leak detection monitoring programs and they shall be sampled on at least an annual basis. If an added parameter is not detected in the same leachate sump over two consecutive samplings and it is not detected during this period in the groundwater or the leak detection system, it may be removed from these programs, if approved in writing by the Chief of the Waste Management Division.
  - (c) During the active life of the landfill and during the post-closure care period, the annual leachate monitoring report shall include:
    - (i) Leachate volume calculations.
    - (ii) A graphical presentation of the monthly and yearly quantities of leachate being generated and pumped from the landfill.

5. The licensee shall provide written notification to the Chief of the Waste Management Division requesting any changes that need to be made to the approved Leak Detection, Collection, and Removal Systems Sampling and Analysis Plan, Attachment 11 of this license, and obtain written approval prior to implementation.
6. The licensee shall, within 60 calendar days of the sampling, report in writing to the Chief of the Waste Management Division the laboratory data and the results from the statistical evaluation performed in accordance with the Leak Detection, Collection and Removal Systems Sampling and Analysis Plan, Attachment 11 of this license.
7. If a statistically significant increase is detected in any of the monitored parameters, the licensee shall immediately notify the Waste Management Division that this situation has occurred and arrange for a resampling of the affected sump(s) as soon as possible to confirm if the statistical increase exists. If adequate water can be obtained from the system, confirmation samples shall be collected in quadruplicate.
8. If the licensee confirms that a statistically significant increase in a monitored parameter has occurred, the following actions must be taken:
  - (a) Immediately notify the Director by calling the Chief of the Waste Management Division or the Waste Management Division, Livonia District Supervisor, in accordance with Condition II.L.6. of this license.
  - (b) Provide follow-up notification to the Chief of the Waste Management Division in writing within five calendar days of the telephone call in accordance with Condition II.L.6. of this license.
  - (c) Begin immediate action to implement the current contingency plan, as appropriate.
  - (d) Determine, within 30 calendar days of notification, whether a failure in the liner system has occurred.
  - (e) Provide the Chief of the Waste Management Division, or his or her designee, with weekly telephone updates and written reports every two weeks regarding the progress to date in determining the cause of contamination, and the results of all samples from environmental monitoring conducted by the licensee.
9. If the determinations made pursuant to Condition IV.C.8.(d) of this license indicate a release of contaminants from the Master Cell VI primary liner system, the licensee shall do either of the following:
  - (a) Begin immediate action to repair failures in the liner system or otherwise correct the problem and demonstrate to the Chief of the Waste Management Division within 72 hours that the action being taken will contain the release of contaminants and maintain the capability of the system to detect contaminants that may enter the leak detection system. The licensee shall complete the repair and corrective activities pursuant to a schedule approved by the Chief of the Waste Management Division, and shall obtain the certification of a registered professional engineer that, to the best of his or her knowledge or opinion, the remedial actions have been completed. If the Chief of the Waste Management Division determines that the failure cannot be corrected on a schedule which insures the protection of human health and the environment, the licensee shall comply with Condition IV.C.9.(b) of this license.

5. The licensee shall, within 60 calendar days of the sampling, report in writing to the Chief of the Waste Management Division the laboratory data and the results from the statistical evaluation performed in accordance with the Lysimeter Monitoring Sampling and Analysis Plan, Attachment 12 of this license.
6. If a statistically significant increase is detected in any of the monitored parameters, the licensee shall immediately notify the Waste Management Division that this situation has occurred and arrange for a resampling of the affected lysimeter(s) as soon as possible to confirm if the statistical increase exists. If adequate water can be obtained from the system, confirmation samples shall be collected in quadruplicate.
7. If the licensee confirms that a statistically significant increase in a monitored parameter has occurred, the following actions must be taken:
  - (a) Immediately notify the Director by calling the Chief of the Waste Management Division or the Waste Management Division, Livonia District Supervisor, in accordance with Condition II.L.6. of this license.
  - (b) Provide follow-up notification to the Chief of the Waste Management Division in writing within five calendar days of the telephone call in accordance with Condition II.L.6. of this license.
  - (c) Begin immediate action to implement the current contingency plan, as appropriate.
  - (d) Determine, within 30 calendar days of notification, whether a failure in the liner system has occurred.
  - (e) Provide the Chief of the Waste Management Division, or his or her designee, with weekly telephone updates and written reports every two weeks regarding the progress to date in determining the cause of contamination, and the results of all samples from environmental monitoring conducted by the licensee.
8. If the determinations made pursuant to Condition IV.D.7.(d) of this license indicate a release of contaminants from Master Cells V or VII, the licensee shall do either of the following:
  - (a) Begin immediate action to repair failures in the liner system or otherwise correct the problem and demonstrate to the Chief of the Waste Management Division within 72 hours that the action being taken will correct the release of contaminants and clean up contaminants that may have leaked from the system. The licensee shall complete the repair and cleanup activities pursuant to a schedule approved by the Chief of the Waste Management Division, and shall obtain the certification of a registered professional engineer that, to the best of his or her knowledge or opinion, the remedial actions have been completed. If the Chief of the Waste Management Division determines that the failure cannot be corrected on a schedule which insures the protection of human health and the environment, the licensee shall comply with Condition IV.D.8.(b) of this license.
  - (b) Cease placing waste into the affected area and take action to prevent the migration of hazardous waste and hazardous waste constituents on a schedule approved by the Chief of the Waste Management Division, and propose a plan to address any environmental damages that may have occurred as a result of the failure.

**F. SEDIMENTATION BASIN MONITORING PROGRAM**

1. The licensee shall collect individual grab sediment samples from six (6) locations in the sedimentation basin on an annual basis in accordance with the locations and procedures described in the Sedimentation Basin Sampling and Analysis Plan, Attachment 14 of this license. Each sample must be analyzed for the list of parameters identified on Table 1 of the plan. An additional sample, a single composite made up from sediment collected from each of the six (6) individual locations, shall be analyzed for the list of parameters identified on Table 2 of the plan. Analysis of the composite sample shall only be required if the licensee receives written approval from the EPA authorizing disposal of PCB wastes.
2. Within 60 days of each sampling, the licensee shall determine if a statistically significant increase has occurred compared to background levels for each parameter listed on Table 1 in the Sedimentation Basin Sampling and Analysis Plan, Attachment 14 of this license. A significant increase shall be determined using the statistical evaluation methods specified in the monitoring plan. For the organic parameters listed on Table 1 of the plan, any occurrence of the parameter above the detection level shall be considered statistically significant.
3. If statistically significant increases of monitored parameters are found, the licensee must notify the Chief of the Waste Management Division immediately by telephone, and within seven days in writing. The notification shall be signed and certified in accordance with Condition I.F. of this license.
4. Within 30 days of the determination of a statistically significant increase, the licensee shall determine whether a discharge to surface waters is occurring, determine the source, and take immediate steps to eliminate and prevent any such discharge. The licensee may demonstrate that a source other than the licensed facility caused the increase or that the increase resulted from error in sampling, analysis or evaluation.
5. The licensee shall report sedimentation basin monitoring results as required by Condition II.L.3. of this license. This information shall be signed and certified in accordance with Condition I.F. of this license. {R 299.9521(3)(a) and (b) and R 299.9611(5)}

**G. AMBIENT AIR MONITORING PROGRAM**

1. The licensee shall conduct ambient air monitoring in accordance with the program specified in Attachment 15 of this license. {R 299.9611(2)(c)}
2. The licensee shall report ambient air monitoring results as required by Condition II.L.3. of this license. {R 299.9521(3)(a) and (b) and R 299.9611(5)}

3. Within 30 days of discovery of a new release of a contaminant from a WMU, the licensee shall provide written notification to the Chief of the Waste Management Division. The written notification shall include all available information pertaining to the release. Based on a review of all of the information, the Chief of the Waste Management Division may require corrective action for the newly identified release. The licensee shall submit a written RCRA Facility Investigation (RFI) Work Plan to the Chief of the Waste Management Division within 60 days after written notification by the Chief of the Waste Management Division that corrective action for the release is required.  
{Section 11115a of Act 451 and R 299.9629}

**D. IDENTIFICATION OF NEW WASTE MANAGEMENT UNITS**

1. Within 30 days of discovery of a new WMU or a release of a contaminant from a new WMU, the licensee shall provide written notification to the Chief of the Waste Management Division. The written notification shall include all of the following information:
  - a. The location of the unit on the facility topographic map.
  - b. The designation of the type of unit.
  - c. The general dimensions and structural description, including any available drawings of the unit.
  - d. The date the unit was operated.
  - e. Specification of all waste(s) that have been managed in the unit.
  - f. All available information pertaining to any release of a contaminant from the unit.
2. Based on a review of all of the information provided in Condition V.D.1. of this license, the Chief of the Waste Management Division may require corrective action for the newly identified WMU. The licensee shall submit a written RFI Work Plan to the Chief of the Waste Management Division within 60 days after written notification by the Chief of the Waste Management Division that corrective action for the unit is required.  
{Section 11115a of Act 451, R 299.9629, and 40 CFR §270.14(d), which is ABR in R 299.11003}

**E. RCRA FACILITY INVESTIGATION**

The licensee has conducted a RCRA Facility Investigation (RFI) to determine if a release of a contaminant(s) from any of the WMUs identified in Conditions V.C.1. of this license has occurred, and if a release(s) has occurred, evaluate the nature and extent of the release(s). The licensee shall conduct a RCRA Facility Investigation (RFI) to determine if a release of a contaminant(s) from any of the WMUs identified in Condition V.D.2. of this license has occurred, and if a release(s) has occurred, evaluate the nature and extent of the release(s). The RFI shall be conducted in accordance with Conditions V.E.1.-V.E.5. and Attachment 16, RFI Scope of Work, of this license.

1. The Chief of the Waste Management Division will approve or modify and approve the RFI Work Plan, or provide a written Notice of Deficiency on the RFI Work Plan. The licensee shall modify the RFI Work Plan in accordance with the Notice of Deficiency and submit a new RFI Work Plan or revisions to the RFI Work Plan to the Chief of Waste Management Division for approval within 30 days after receipt of the Notice of Deficiency. Upon approval by the Chief of the Waste Management Division, the RFI Work Plan becomes an enforceable condition of this license.
2. The licensee shall implement the approved RFI Work Plan within 90 days after receipt of the Chief of the Waste Management Division's written approval of the RFI Work Plan.



**G. CORRECTIVE MEASURES STUDY**

If the Chief of the Waste Management Division determines, based on the results of the RFI and other relevant information, that corrective measures are necessary, the Chief of the Waste Management Division will notify the licensee in writing that a Corrective Measures Study (CMS) is required. If required by the Chief of the Waste Management Division, the licensee shall conduct a CMS to develop and evaluate the corrective measure alternative(s) necessary to address the release(s) of a contaminant(s) and the WMU(s) that are identified in the approved RFI Final Report as requiring further corrective action. The CMS shall be conducted in accordance with Conditions V.G.1.-V.G.7. and Attachment 17, CMS Scope of Work, of this license.

1. The licensee shall submit a written CMS Work Plan to the Chief of the Waste Management Division for review and approval within 60 days after receipt of written notification that a CMS is required.
2. The Chief of the Waste Management Division will approve or modify and approve the CMS Work Plan, or provide a written Notice of Deficiency on the CMS Work Plan. The licensee shall modify the CMS Work Plan in accordance with the Notice of Deficiency and submit a new CMS Work Plan or revisions to CMS Work Plan to the Chief of Waste Management Division for approval within 30 days after receipt of the Notice of Deficiency. Upon approval by the Chief of the Waste Management Division, the CMS Work Plan becomes an enforceable condition of this license.
3. The licensee shall implement the approved CMS Work Plan within 90 days after receipt of the Chief of the Waste Management Division's written approval of the CMS Work Plan.
4. The licensee shall submit a written CMS Final Report to the Chief of the Waste Management Division for review and approval within 60 days after the completion of the CMS. The CMS Final Report shall document compliance with the approved CMS Work Plan and support further corrective action at the facility.
5. The Chief of the Waste Management Division will approve the CMS Final Report or provide a written Notice of Deficiency on the CMS Final Report. The licensee shall modify the CMS Final Report in accordance with the Notice of Deficiency and submit a new CMS Final Report or revisions to the CMS Final Report to the Chief of the Waste Management Division for approval within 30 days of receipt of the Notice of Deficiency.
6. The licensee shall submit bi-monthly written CMS progress reports to the Chief of the Waste Management Division.
7. The licensee shall comply with the time frames specified in Condition V.G.1.-V.G.6. of this license unless otherwise approved in writing by the Chief of the Waste Management Division.  
{Section 11115a of Act 451 and R 299.9629}

**H. CORRECTIVE MEASURES IMPLEMENTATION**

The licensee shall conduct Corrective Measures Implementation (CMI) based on the CMS Final Report approved by the Chief of the Waste Management Division. The CMI shall be conducted in accordance with Conditions V.H.1.-V.H.10. and Attachment 18, CMI Scope of Work, of this license.

1. The licensee shall submit a written CMI Work Plan to the Chief of the Waste Management Division for review and approval within 60 days after the approval of the CMS Final Report by the Chief of the Waste Management Division.

**I. COST ESTIMATE FOR CORRECTIVE ACTION**

1. The licensee shall prepare a detailed written cost estimate for CMI at the facility. {R 299.9712}
2. The licensee shall submit the detailed written cost estimate for CMI to the Chief of the Waste Management Division for review and approval in conjunction with the CMI Work Plan required in Condition V.H.1. of this license. {R 299.9712}
3. The Chief of the Waste Management Division will approve the cost estimate for CMI or provide a written Notice of Deficiency on the cost estimate for CMI. The licensee shall modify the cost estimate for CMI in accordance with the Notice of Deficiency and submit a new cost estimate for CMI to the Chief of the Waste Management Division for approval within 30 days of receipt of the Notice of Deficiency. Upon approval by the Chief of the Waste Management Division, the cost estimate for CMI becomes an enforceable condition of this license. {R 299.9712}
4. Until the Director notifies the licensee in writing that the licensee is no longer required by R 299.9713 to maintain financial assurance for CMI at the facility, the licensee shall adjust the CMI cost estimate for inflation within 60 days prior to the anniversary of the date of the establishment of the financial mechanism(s) used to demonstrate financial assurance for CMI. If the financial mechanism used is the financial test or corporate guarantee, the licensee shall adjust the CMI cost estimate for inflation within 30 days after the close of the firm's fiscal year and before submission of updated financial information to the Chief of the Waste Management Division. Whenever the current cost estimate increases to an amount greater than the current value of the associated financial mechanism for reasons other than inflation, the licensee shall, within 60 days, increase the value of the mechanism to an amount at least equal to the adjusted cost estimate. Evidence of such increases shall be submitted to the Chief of the Waste Management Division during the 60-day period. {R 299.9712}
5. The licensee shall recalculate the CMI cost estimate within 30 days after the Chief of the Waste Management Division has approved a modification of the CMI Work Plan. Until the Director notifies the licensee in writing that the licensee is no longer required to maintain financial assurance for CMI, the licensee shall revise the CMI cost estimate whenever there is a change in the facility's CMI Work Plan, if the change in the CMI Work Plan increases the cost of CMI. {R 299.9712}
6. The licensee shall keep the latest CMI cost estimate at the facility. {R 299.9712}

**J. FINANCIAL ASSURANCE FOR CORRECTIVE ACTION**

1. The licensee shall establish and continuously maintain corrective action financial assurance in accordance with R 299.9713. The licensee shall submit in conjunction with the CMI Work Plan the CMI financial assurance mechanism(s) approved by the Chief of the Waste Management Division in an amount at least equal to the cost estimate required by Condition V.I.1. of this license. If more than one mechanism is used, or if more than one facility is covered by the mechanism[s], the total amount of financial assurance provided for the facility shall at least equal the amount of the cost estimate required by Condition V.I.1. of this license. The licensee shall submit all proposed changes in the mechanism[s], other than renewals, extensions, or increases in the amount of assurance, to the Chief of the Waste Management Division and obtain approval prior to implementation. The licensee shall provide the Chief of the Waste Management Division with a signed original of all revisions and renewals within 60 days after such revision or renewal and at least 30 days prior to the anniversary of the establishment of the financial mechanism(s) provided to satisfy the requirements of this condition.

Revised CMS Final Report for existing WMUs and contaminant releases	Within 30 days after receipt of CMS Final Report Notice of Deficiency
CMI Work Plan for existing WMUs and contaminant releases	Within <b>90</b> days after approval of the CMS Final Report
Revised CMI Work Plan for existing WMUs and contaminant releases	Within 30 days after receipt of CMI Work Plan Notice of Deficiency
CMI progress reports on construction phase of CMI	Within 60 days of initiation of construction and every 60 days thereafter
CMI progress reports on operation and maintenance activities	Within 60 days of initiation of operation and maintenance activities and every 90 days thereafter
Construction Completion Report	Within 60 days after completion of construction and operational tests
Revised Construction Completion Report	Within 30 days after receipt of Construction Completion Report Notice of Deficiency
CMI Final Report for existing WMUs and contaminant releases	Within 60 days after completion of CMI
Revised CMI Final Report for existing WMUs and contaminant releases	Within 30 days after receipt of CMI Final Report Notice of Deficiency

**L. CORRECTIVE ACTION DOCUMENTS RETENTION**

The licensee shall maintain all corrective action documents required by this license at the facility. The documents shall be maintained for the operating life of the facility and until the facility is released from financial assurance requirements for corrective action by the Director.  
{Section 11115a of Act 451 and R 299.9629}

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Attachment 17 .....	Corrective Measures Study Scope of Work
Attachment 18 .....	Corrective Measures Implementation Scope of Work

# Active Landfill Cell Design

Sub-Cell	Liner	Leachate Collection
A and B	<u>10' native clay</u> <u>60 mil HDPE</u> <u>5' compacted clay</u> <u>80 mil HDPE</u>	<u>1' sand</u> <u>perforated pipe</u> <u>geosynthetics</u>
C and D	<u>10' native clay</u> <u>80 mil HDPE</u> <u>5' compacted clay</u> <u>80 mil HDPE</u>	<u>1' sand</u> <u>perforated pipe</u> <u>geosynthetics</u>
E <sup>1</sup>	<u>10' (minimum) native clay</u> <u>waste (Master cell V)</u> <u>intermediate cover</u> <u>geogrid embedded in structural fill</u> <u>3' (minimum) compacted clay</u> <u>80 mil HDPE</u> <u>geocomposite</u> <u>5' minimum compacted clay</u> <u>80 mil HDPE</u>	<u>geocomposite</u> <u>perforated pipe in 1' of sand</u>

Volume <sup>2</sup>	Description
<u>562,597 CY</u>	<u>Remaining waste capacity in VI A, B, C, and D as of January 2003</u>
<u>966,215 CY</u>	<u>Approximate capacity to be added by VI E-Phase 1</u>
<u>1,000,493 CY</u>	<u>Approximate capacity to be added by VI E-Phase 2</u>

<sup>1</sup>Sub-cell E is being constructed over the top of Master Cell V. Sub-cell E will be built in two phases. Phase 1 is currently under construction. Phase 2 construction has not yet begun.

<sup>2</sup>Volumes include waste and daily cover.

## ***Closed Landfill Design***

Cell	Total Waste Inventory *	Liner	Leach Coll.	Cover
<b>I</b>	3,820,000 CY	10' native clay	none	4' comp. clay
<b>IV</b>	1,710,000 CY	10' native clay	none	4' comp. clay
<b>VA, C, D</b>	2,100,000 CY (total V)	10' native clay	1' sand & perforated pipe	20 mil PVC/ 5' comp. clay
<b>VB, E</b>		15' native clay	1' sand & perforated pipe	20 mil PVC/ 5' comp. clay
<b>VIIA, B</b>	1,840,000 CY (total VII)	15' native clay	1' sand & perforated pipe	30 mil HDPE/ 3' comp. clay
<b>VIIC</b>		15' native clay/ 2 layers 60 mil HDPE	1' sand/ perforated pipe/tires	30 mil HDPE/ 3' comp. clay
<b>IX</b>	3,300,000 CY	10' native clay	1' sand & perforated pipe	40 mil HDPE/ 3' comp. clay
<b>XI</b>	2,100,000 CY	10' native clay	1' sand & perforated pipe	30 mil HDPE/ 2' comp. clay
<b>X</b>	2,400,000 CY	10' native clay	1' sand & perforated pipe	40 mil HDPE/ 2' comp. clay

\* Volumes include waste and daily cover.

## ***Landfill Cell Status***

<b>Cell/ Unit</b>	<b>Status (Open/Closed)</b>	<b>Date (Open/Closed)</b>	<b>Approximate Area (Acres)</b>
<b>I</b>	Closed	Fall '75 - Winter ' 78	65
<b>IV</b>	Closed	1/79 - 1/81	33
<b>V</b>	Closed	1/81 - 8/83	40
<b>VI</b>	Open	9/86 - Present	32
<b>VII</b>	Closed	8/83 - 9/86	32
<b>IX</b>	Closed	4/85 - 8/92	46
<b>X</b>	Closed	3/88 - 6/93	39
<b>XI</b>	Closed	9/82 - 4/85	37

# **Site Description**

## **Site History**

Prior to development the site was partially wooded and open fields. In 1958, Wayne Disposal, Inc. (WDI) constructed landfills at other locations and began offering waste disposal services. From 1970 to 1975, Site #1 immediately west of the present site was active. In 1975, the second landfill, Site #2, was started. Beginning in 1980, WDI operations segregated hazardous waste from nonhazardous waste in separate and distinctly different landfill cells.

To prevent liquids from being placed into the landfill, Michigan Disposal, Inc. (MDI) waste stabilization and fixation plant was established in 1974. The facility presently in operation was constructed in 1990. The former plant was clean closed at that time. In 1992, the Michigan Disposal, Inc. (MDI) name was officially changed to Envotech Management Services, Inc. (EMSI) and in 1995, the facility name was switched back to Michigan Disposal Waste Treatment Plant (MDWTP).

## **Directions and Zoning**

Located in southeastern Michigan, Site #2 is approximately ten miles west of Detroit Metro Airport along the I-94 corridor. The facility is located northwest of Belleville (population 3,366) in Wayne County, Michigan. Approaching from the east, exit at Belleville Road and travel north to the first light. Proceed west along the North Service Drive approximately two miles to EQ's main entrance gate. Transporters are required to approach the site from the west, exiting I-94 at Rawsonville Road and traveling north to the stop sign. Turn right and proceed east along the North Service Drive approximately two miles to EQ's main gate entrance.

The nearest residential neighbor is approximately one-quarter mile south of the site across I-94, a six-lane freeway. To the east lies a tract of undeveloped land which buffers the Quirk subdivision one-quarter of a mile away. Surrounding areas are developed for commercial and industrial purposes. Willow Run Airport borders the site to the north. The Thompson-McCully Asphalt Company and a self-storage unit company are located west of the site.

Although the facility occupies 435 acres, WDI has licensed 120 acres for hazardous waste placement and 7.5 acres are licensed for MDWTP operations.

## **Climate**

Prevailing winds at the site are from the southwest. The ambient air monitoring program conducted for the site indicates no negative impact upon the atmospheric environment. For greater detail refer to "Monitoring Parameters".

Annual rainfall in the area is approximately 31 inches. Precipitation falling onto the site is managed either as non-contact surface water or potentially contaminated surface water. Non-contact surface water is collected in a sedimentation basin and is discharged to the west branch of the Quirk Drain. Any surface water which may have contacted waste is considered potentially contaminated. It is collected and managed with the leachate collected from waste cells at the on-site wastewater treatment plant. The surface water monitoring program conducted for the site indicates no negative impact upon the waters of the area. For greater detail refer to "Monitoring Parameters".



## **Topography and Hydrogeology**

The site is approximately 700 feet above sea level. When completed, WDI's cells will reach an elevation of 845 feet above sea level. Development of the site required the removal of a layer of sandy silt (up to 15 feet thick) that constituted a perched water table. Diversion berms and ditches conduct water drained from that water table along the northern perimeter eastward to the Quirk Drain and westward to Willow Run Creek.

### ***Regional Hydrogeologic Setting***

The region near the WDI and MDWTP facilities is part of a physiographic feature known as a glacial lake plain, which extends from the City of Ypsilanti to the Lake Erie shoreline. The principal characteristics of this feature are an almost flat topography and poor surface drainage. Only thin and discontinuous glacio-lacustrine deposits associated with the lake plain remain today.

Locally, the lake plain is covered by Pleistocene deltaic deposits which were laid when the ancestral Huron River exited the Defiance Moraine and fanned out over the lake plain area. Principal characteristics of this deposit are a gently upward sloping topography to the northwest and the presence of near-surface subsoils consisting of bedded granular materials such as fine sands, silty sands and silts.

Beneath the deltaic deposits is a thick clay-rich glacial till. This deposit is generally considered an ice-contact till and is composed of a clay and silt matrix with various amounts of sand and gravel. At the base of the till are laterally extensive glacial outwash deposits. These deposits appear to thicken toward the Huron River Valley. There is an erosional channel within the underlying bedrock.

The predominant bedrock underlying the area is the Antrim Formation, a late Devonian shale deposit. Within the region, the Antrim Formation appears to be 50 to 100 feet thick.

### ***Site Hydrogeologic Conditions***

Numerous test borings and monitoring wells installed at the site have confirmed that site conditions are representative of the regional hydrogeology. The uppermost unit encountered at most test boring locations is the surficial deltaic deposit. This unit has been found to range in thickness from 0 to 23 feet. There is a perched water table within these deltaic deposits. The ground water in this deposit is not usable as a ground water supply due to the low yields and seasonal occurrence in many locations. The depth to the saturated zone is quite variable but averages around 10-15 feet below ground surface.

Because this deposit was removed as part of landfill construction, no permeability tests were conducted on this material. The material is generally a silty fine sand with various amounts of both coarser and finer material. As such, it might be expected to have a coefficient of permeability in the  $1 \times 10^{-3}$  to  $1 \times 10^{-5}$  cm/sec range.

The next unit in the geologic sequence is a thick sequence of silty clay till of glacial origin. This unit ranges from 19 to 77 feet thick at the site and is generally 40-60 feet thick in most areas.

Landfill units are constructed within this material. The silty clay till has a mean coefficient of permeability based on numerous tests of  $3 \times 10^{-8}$  cm/sec. This unit is an upper confining unit for the uppermost usable aquifer in most areas of the site. However, along the north site boundary the aquifer is absent and the clays extend all the way to bedrock with only minor sand and silt seams are present within the till.

Beneath the clay till in most areas is a unit referred to as the "transition silt" unit. This "unit" actually represents a somewhat gradual coarsening of the till deposit with increasing depth. This unit is composed of clayey silt, silts and sandy silts and generally exhibits coarser grain size with increasing depth. This unit acts as a second confining layer where present and can be 10-15 feet thick in some areas. Tests on the clayey silt portions of the transition silts yield values between  $6.9 \times 10^{-4}$  to  $1.3 \times 10^{-4}$  cm/sec.

Beneath the clay till and/or transition silts over most of the site is sequence glacial sand and gravel. This unit also tends to become coarser in depth; the upper portion is a silty sand and the lower portion a gravely sand or sandy gravel. This unit is found to be between 0 and 80 feet thick. In general, the deposit tends to increase in thickness to the south. Along the north site boundary the deposit is not found in some areas.

This sand deposit forms the uppermost usable aquifer at the site. It is present at a depth of 50 to 80 feet below ground surface. This aquifer is partially confined (i.e. confined in most areas by the overlying clay till but unconfined in some areas where the till is thinner). It is a usable aquifer from a quality and quantity standpoint, but is not used as the primary source because the entire area has access to a municipal supply.

From limited permeability tests and estimations from grain size analyses it appears that the coefficient of permeability for the silty sands ranges from  $1 \times 10^{-5}$  to  $1 \times 10^{-2}$  cm/sec with a median value around  $1 \times 10^{-3}$  cm/sec. Portions of the aquifer composed of coarser sand and gravel will most probably have a coefficient of permeability greater than  $1 \times 10^{-3}$  cm/sec.

Ground water in the usable aquifer flows to the south toward Belleville Lake. The gradient across the site is approximately 0.001. Using a horizontal permeability of  $1 \times 10^{-3}$  cm/sec and an effective porosity of 0.10, the lateral flow velocity of 0.03 feet/day or about 10 feet per year. Vertical gradients within the usable aquifer are low and tend to be slightly upward along the southern (downgradient) site boundary.

The aquifer sands are underlain by shale of the Antrim Formation. Although the upper, weathered portion produces water, no records are available that indicate that the formation itself is an aquifer. Although little information is available for the shale formation below the usable aquifer, it is assumed that this unit acts as a lower confining layer. It is continuous across the site at depths ranging from approximately 100 to 140 feet below ground surface.

# ***Groundwater Monitoring Program***

## **Organic Parameters**

1,2-Dichlorobenzene  
1,1-Dichloroethane  
1,2-Dichloroethane  
1,2-Dichloroethene  
1,1,1-Trichloroethane  
2,4-D  
Benzene  
Endrin  
Ethylbenzene  
Methoxychlor  
Methylene Chloride  
PCB-1016  
PCB-1221  
PCB-1232  
PCB-1242  
PCB-1248  
PCB-1254  
PCB-1260  
Toluene  
Total Organic Carbon  
Total Phenolics  
Toxaphene  
Trichloroethene  
Vinyl Chloride  
Xylene

## **Inorganic Parameters**

Arsenic  
Barium  
Bicarbonate  
Cadmium  
Calcium  
Carbonate  
Chloride  
Chromium, Total  
Copper  
Cyanide, Total  
Fluoride  
Iron  
Lead  
Magnesium  
Manganese  
Mercury  
Molybdenum  
Nickel  
Nitrate  
Nitrite  
Potassium  
Selenium  
Silver  
Silvex  
Sodium  
Sulfate  
Zinc

## **Conventional Parameters**

Alkalinity as CA CO<sub>3</sub>  
pH  
Specific Conductivity  
Temperature

# ***Surface Water Monitoring Program***

Wayne Disposal, Inc. Site #2 Landfill quarterly samples surface water at three locations at the facility.

## **Organic Parameters**

1,1,1-Trichloroethane	Bromomethane	PCB-1221
1,1,2,2-Tetrachloroethane	Carbon Tetrachloride	PCB-1232
1,1,2-Trichloroethene	Carbonate	PCB-1242
1,1-Dichloroethane	Chloride	PCB-1248
1,1-Dichloroethene	Chlorobenzene	PCB-1254
1,2-Dichlorobenzene	Chloroethane	PCB-1260
1,2-Dichloroethane	Chloroform	Total Phenolics
1,2-Dichloropropane	Chloromethane	Tetrachloroethene
1,3-Dichlorobenzene	cis 1,3-dichloropropene	Toluene
1,4-Dichlorobenzene	Dibromochloromethane	trans 1,2-Dichloroethene
2-Chloroethylvinyl Ether	Ethylbenzene	trans 1,3-Dichloropropene
Benzene	Methylene Chloride	Trichloroethene
Bromodichloromethane	Nitrate	Trichlorofluoromethane
Bromoform	PCB-1016	Vinyl Chloride

## **Inorganic Parameters**

Arsenic	Iron
Barium	Magnesium
Bicarbonate	Manganese
Cadmium	Mercury
Calcium	Nitrate
Carbonate	Selenium
Chloride	Silver
Chromium, Hexavalent	Sodium
Chromium, Total	Sulfate
Cyanide, Amenable	Zinc
Cyanide, Total	

## **Conventional Parameters**

Alkalinity, Total  
Fecal Colliform  
pH  
Specific Conductance  
Total Suspended Solids (4 mg/L)

# ***Sedimentation Basin Monitoring Parameters***

Each year the sedimentation basin is sampled. Results are sent to the MDEQ.

Six samples are taken from the basin and tested for the following \* parameters.

A composite sample is created from the six grab samples and analyzed for the remaining parameters.

## **Organic Parameters**

1,1,1-Trichloroethane	cis 1,3-dichloropropene
1,1,2,2-Tetrachloroethane	Dibromochloromethane
1,1,2-Trichloroethene	Ethylbenzene*
1,1-Dichloroethane*	Methylene Chloride
1,1-Dichloroethene	PCB-1016
1,2-Dichlorobenzene*	PCB-1221
1,2-Dichloroethane	PCB-1232
1,2-Dichloropropane	PCB-1242
1,3-Dichlorobenzene	PCB-1248
1,4-Dichlorobenzene	PCB-1254
2-Chloroethylvinyl Ether	PCB-1260
Benzene	Tetrachloroethene
Bromodichloromethane	Toluene*
Bromoform	Total Phenolics*
Bromomethane	Total Xylene
Carbon Tetrachloride	trans 1,2-Dichloroethene
Chlorobenzene	trans 1,3-Dichloropropene
Chloroethane	Trichloroethene
Chloroform	Trichlorofluoromethane
Chloromethane	Vinyl Chloride

## **Inorganic Parameters**

Arsenic\*  
Barium\*  
Cadmium\*  
Calcium\*  
Chromium, Total\*  
Chromium, Hexavalent\*  
Cyanide, Total\*  
Cyanide, Amenable\*  
Iron\*  
Lead\*  
Mercury\*  
Selenium\*  
Silver\*  
Zinc\*

## **Conventional Parameters**

pH  
Specific Conductivity

# ***Ambient Air Monitoring Program***

MDWTP and WDI monitor ambient air quality at six locations, plus a QA/QC stations, around the perimeter of the site. High volume particulate samplers are located at each location. The high volume, PM-10, and organic samplers are operated every 6th day for a 24 hour period. Samples are analyzed for the following:

Cadmium  
Chromium  
Lead  
Total Suspended Particulate  
PM-10

Samples collected from the organic samplers are analyzed for the following:

Chloroform  
Methylene Chloride  
1,1,1 - Trichloroethene  
Trichloroethene  
Carbon Tetrachloride  
Tetrachloroethene  
Benzene  
Toluene  
Total Xylene's  
Total PBC's